# CURTIS'S

# BOTANICAL MAGAZINE,

COMPRISING THE

## Plants of the Royal Gardens of Kew,

AND

## OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY


## SIR WILLIAM JACKSON HOOKER, K.H., D.C.L. Oxon.,

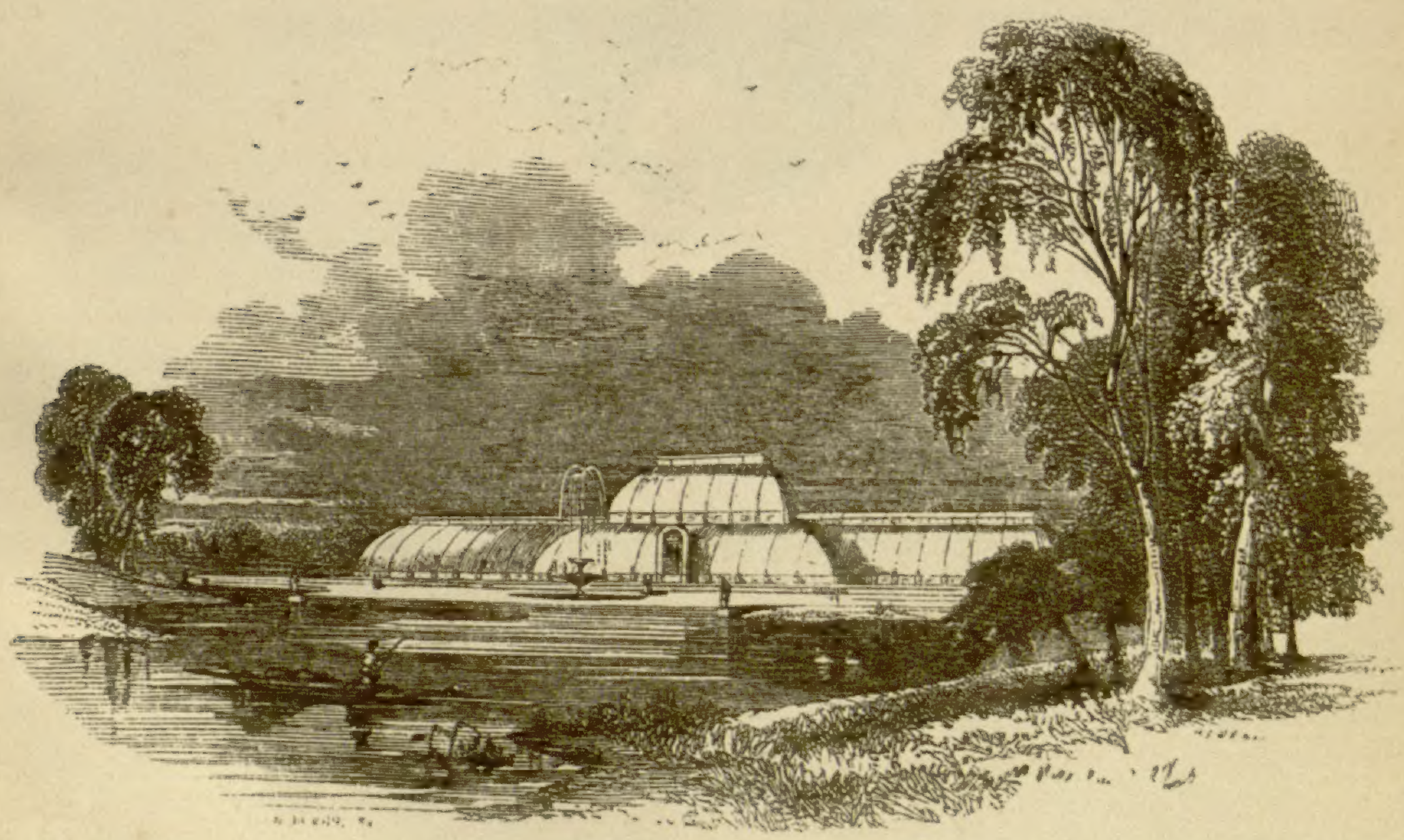
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VOL. VIII.

OF THE THIRD SERIES;

*(Or Vol. LXXVIII. of the Whole Work.)*

"For if delight may provoke men's labor, what greater delight is there than to behold the earth apparelled with plants, as with a robe of embroidered worke, set with orient pearles, and garnished with great diversity of rare and costly jewels?"—*Gerarde.*


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TO

# N. B. WARD, ESQ., F.R.S., L.S.,

ETC. ETC. ETC.,

WHOSE INVENTION OF THE

## CLOSELY GLAZED CASES

HAS CONTRIBUTED SO MUCH TO THE ENRICHING OF OUR GARDENS WITH

PLANTS FROM THE MOST DISTANT REGIONS,

AND TO THE

EMBELLISHMENT OF THE DRAWING-ROOM OF THE PRINCE

AS WELL AS OF THE

HUMBLE DWELLING OF THE MECHANIC IN THE MOST CROWDED CITIES,

## This Volume is Dedicated,

AS A

MARK OF THE AFFECTIONATE ESTEEM AND REGARD OF

THE AUTHOR.

Royal Gardens, Kew,
*December* 1, 1852.

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Fitch, del. et lith.

Reeve & Nichols, imp.

# Tab. 4623.

# IMPATIENS cornigera.

*Horn-bearing Balsam.*

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Nat. Ord. Balsamineæ.—Pentandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4615.)

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Impatiens *cornigera*; herbacea erecta inferne ramosa radicans, foliis alternis longe petiolatis ovatis acuminatis marginibus integerrimis scabris basi remote fimbriolatis, petiolis glanduloso-fimbriolatis, pedunculis aggregatis axillaribus unifloris petiolo brevioribus deflexis, floribus (roseis) sepalo superiore (2 sepalis unitis) dorso ungue viridi donato, inferiore cucullato pubescente, calcare brevi obtuso curvato lamina orbiculari.

---

Raised in the stove of the Royal Gardens, from seeds sent from Ceylon by Mr. Thwaites. It flowered the whole summer and autumn, and may be pronounced a really ornamental plant. In our herbarium we find specimens which we consider to be identical, from Assam, sent by Major Jenkins, and among those specimens are some with glabrous flowers, which have considerable affinity with *Impatiens lævigata*, Wall., but from which the present appears truly distinct.

Descr. *Stem* erect, three to four feet high, rather stout, succulent, semipellucid, striated, often red at the setting on of the leaves, very thick and much branched and rooting below. *Leaves* alternate, large, sometimes nearly a span long, ovate, acuminated, penninerved, pale beneath; *petiole* and midrib generally red, the margin very obscurely crenato-serrate, the minute teeth bearing a seta which is long and conspicuous at the base of the leaf; the edge too, as seen under a lens, is everywhere ciliated: *petiole* 1–2 inches long and nearly a line broad, semiterete, margined, the margin bent, with more or less numerous long soft distant fimbriæ tipped with a gland. *Peduncles* aggregate, axillary, single-flowered, much shorter than the petiole, a little enlarged upwards, and curved down with the weight of the

flower. The size of the flower is about equal to those of *Impatiens Balsamina*, and the colour is yellowish, much suffused with pink. The upper sepal (two united) is remarkable for a large green horn-like projection from the back; the lower for being downy, and for the short, much-curved, green spur. *W. J. H.*

Cult. This, like other tropical species of the genus, requires to be treated as a tender annual. If potted in light rich soil, and kept in a stove and well supplied with water, it attains a considerable size, producing thick side-branches, which in time assume a hard woody appearance. When placed in a favourable situation as regards shade and moisture, the lower parts of the branches produce aerial roots, which descend till they reach the soil, and then materially assist in supplying nourishment to the plant. As it flowers late, we fear it will not ripen seeds; but it may be increased by cuttings, which root readily in the summer, but require much care in the winter, as they are liable to damp off. *J. S.*




Roth, del et lith.

Evans & Nichols, imp.

# Tab. 4624.

# MACHÆRANTHERA TANACETIFOLIA.

*Tanacetum-leaved Machæranthera.*

Nat. Ord. Compositæ-Asteroideæ.—Syngenesia Superflua.

*Gen. Char. Capitulum* radiatum, ligulis fœmineis (neutrisve?) linearibus 3-nerviis. *Involucrum* pluriseriale, imbricatum, squamis herbaceis margine pallidis apice patulis. *Receptaculum* nudum? (alveolatum et fimbriatum). *Stigmata* disci apice lineari elongato sterili. *Antheræ* corolla longiores, basi muticæ, appendice terminali cultriformi. *Achenia* compressa (conica?), sericeo-hirsuta, pilis pappum externum simulantibus. *Pappus* pilosus, inæqualis, scaber.—Herba *perennis, pilis capitatis pubescens, facie* Anthemidis. Folia *alterna, pinnatifida, lobis dentatis.* Capitula *terminalia, solitaria, ramo apice nudo pedunculata.* Ligulæ *albæ, ex H. et B. in sicco purpurascentes.* Discus *luteus.*

Machæranthera *tanacetifolia.*

Machæranthera tanacetifolia. *Nees, Ast. p.* 224. *De Cand. Prodr. v.* 5. *p.* 262.

Aster tanacetifolius. *H. B. K. Nov. Gen. Am. v.* 4. *p.* 95.

Aster chrysanthemoides. *Willd. in Spreng. Syst. Veget. v.* 3. *p.* 538.

A pretty and singular suffruticose *Composita,* with flowers nearly as large as a China Aster, and the leaves deeply pinnatifid, like some *Anthemis,* perhaps, rather than *Tanacetum.* It was seen by Humboldt cultivated in gardens in Mexico; but Dr. Wright appears to have found it wild in New Mexico, and from his seeds our plants were raised in the Royal Gardens of Kew. Planted in the open border they continued flowering during the summer months.

Descr. A procumbent, or rather ascending, half-shrubby plant, with branching slender stems, nearly a foot long, everywhere as well as the foliage slightly downy. *Leaves* alternate, sessile, spreading, their outline oblong, but they are cut in a pinnatifid manner down to the linear *rachis* into a number of rather distant, spreading, linear, acute, entire or slightly serrated segments: towards the flowers, on the branches, the segments become smaller, till the uppermost leaf is almost or quite entire

and linear. *Capitulum* large, yellow, with a purple ray, solitary, terminal on the branches. *Involucre* hemispherical, of numerous, spreading, subulate, glandular, herbaceous scales. *Ligules* of the ray rather linear-lanceolate, three-nerved, the lower portion woolly at the back. *Achenia* hispid. *Pappus* scabrous; branches of the style almost filiform. *Florets* of the centre tubulose, five-toothed. *Achenium* and *pappus* as in the ray. Branches of the style linear-spathulate, glandular on the back at the apex. *Receptacle* evidently honey-combed and fimbriated. *W. J. H.*

Cult. This pretty plant is a tender biennial, but sufficiently hardy to flourish in the open air during summer. Unfortunately for its maintenance as a garden plant, it produces but a small quantity of perfect seeds and is not readily propagated by cuttings. *J. S.*

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Fig. 1. Floret of the disc. 2. Portion of the receptacle. 3. Floret of the ray. 4. Hair of the pappus:—*magnified.*

# Tab. 4625.

# RANUNCULUS cortusæfolius.

*Cortusa-leaved Ranunculus, or Buttercup.*

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Nat. Ord. Ranunculaceæ.—Polyandria Polygynia.

*Gen. Char.* (*Vide supra*, Tab. 4585.)

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Ranunculus (§ Ranunculastrum) *cortusæfolius*; elatus, foliis cauleque pilosis radicalibus subcordato-reniformibus 3–5-lobatis subradiatim venosis, lobis inciso-lobulatis dentatisque, caulinis subsessilibus 3–5-partitis, floralibus lanceolatis, caule apice ramoso-corymboso, calyce patentissimo, sepalis extus villosis, fructu oblongo-globoso, acheniis stylo uncinato terminatis.

Ranunculus cortusæfolius. *Willd. Enum. p.* 588. *Deless. Ic. Select. v.* 1. *t.* 36. *De Cand. Prodr. v.* 1. *p.* 264. *Webb, Hist. Nat. Canar. Bot. v.* 1. *p.* 8. *Spreng. Syst. Veget. v.* 2. *p.* 647.

Ranunculus Teneriffæ. *Pers. Syn. v.* 2. *p.* 103.

Ranunculus grandifolius. *Lowe, Prim. Faun. et Fl. Mad. p.* 38. (*not Mey.*)

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Unquestionably the handsomest of all the Buttercups yet known to botanists. The flowers are not only large, more than two inches across, but of a singularly glossy yellow colour; and although a native as it would seem exclusively of the Canary Islands and of Madeira, it is quite hardy. In the latter country Ribeira Frio seems to be the only locality: in the former Mr. Webb describes it as inhabiting grassy banks in the woody districts. It flowers during the summer months. To the synonyms above given Sprengel adds that of *R. heucheræfolius*, Presl, Fl. Sicul.

Descr. *Root* grumose, formed of thick, fleshy, fasciculated fibres. *Stem* two to four feet high, terete, and, as well as the foliage, hairy with rather pilose hairs, which are dilated at the base. *Radical leaves* on long hairy *petioles*, large, between orbicular and reniform, three- to five-lobed; *lobes* again divided and cut into several acute lobules, or large sharp teeth, cut and serrated, the whole somewhat radiately and dichotomously veined; *upper leaves* gradually smaller, sessile, five- to three-partite, the segments lanceolate, coarsely serrated, with parallel veins. *Flowers* terminal, between cymose and paniculate. *Petioles* terete.

January 1st, 1852.

*Calyx* of five, ovato-lanceolate, very hairy, herbaceous sepals, pale and scariose at the margin. *Petals* five, large, broadly obovate, very glossy yellow. *Stamens* very numerous. *Head of pistils* short, oval. *Ovary* round-ovate, compressed, laterally hairy, tapering into a recurved style scarcely its own length. *Head of fruit* similar, but larger. *W. J. H.*

Cult. This plant, being of neat habit and flowering freely in a pot, is well suited for being associated with general collections of the smaller alpine plants, which are usually kept in pots for the convenience of removing the more tender species to the protection of a frame during the winter and early spring months. When planted in the open border, it should be protected by a hand-glass, additional covering being provided during severe frosts. It is increased by division of the roots, which should be done in autumn. *J. S.*

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Fig. 1. Capitulum of scarcely mature fruit :—*nat. size*. 2. Carpel :—*magnified*.

# Tab. 4626.

# EUGENIA Ugni.

*Myrtilla.*

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

*Gen. Char.* (*Vide suprà*, Tab. 4526.)

Eugenia *Ugni*; pedunculis axillaribus solitariis unifloris folium æquantibus v. superantibus, bracteolis sub calyce persistentibus lobisque calycinis linearibus reflexis, foliis ovatis acutis coriaceis impunctatis venis obsoletis supra atro-viridibus subtus pallidis siccitate albis, ramulis novellis petiolisque superioribus pubescentibus.

Eugenia Ugni. *Hook. et Arn. Contr. to Fl. S. Am. in Bot. Misc. v.* 3. *p.* 318.

Myrtus Ugni. *Mol. Chil. ed. Gal. p.* 133. *De Cand. Prodr. v.* 3. *p.* 239. *Spreng. Syst. Veg. v.* 2. *p.* 481.

Murtilla. *Feuill. Obs. v.* 3. *p.* 44. *t.* 31.

In the absence of fruit, of which we are yet ignorant notwithstanding our copious specimens, I am still doubtful whether this should be ranked with *Myrtus* or *Eugenia*, but I retain it in the genus to which Dr. Arnott and myself referred it in the 'Botanical Miscellany.' It forms a charming shrub, native of South Chili and the islands, abundant in Chiloe and in the Bay of Valdivia, where the natives call it *Ugni*, and the Spaniards *Murtilla* or *Myrtilla*; and the habit is not unlike that of our European Myrtle. Introduced by Messrs. Veitch and Son, through their collector, Mr. William Lobb. It proves quite hardy in their Nursery at Exeter, whence we were favoured with the flowering specimen here figured in July 1851. The flowers are fragrant, and the leaves when bruised are no less so; which ensures its being prized by all cultivators.

Descr. A *shrub*, varying in height, according to Mr. Bridges, from two to four feet, copiously branched; *branches* erecto-patent, clothed with brown bark, young *shoots* downy. *Leaves* copious, opposite, spreading, on very short *petioles*, thick, coriaceous, ovate, sometimes varying to lanceolate, very acute, impunctate, nerveless, the margin reflexed, dark green above, pale and when dry almost white beneath. *Peduncles* axillary, solitary,

single-flowered, with a pair of linear reflexed *bracts* at the setting on of the flower. *Calyx-tube* turbinate, dotted: *limb* of five (or rarely four) recurved, linear *lobes*, exactly resembling the bracts. *Petals* five (or four), erect, orbicular, very concave (forming a globose corolla), white, tinged with rose. *Stamens* numerous: *anthers* red. *Style* shorter than the petals, thick, subulate. *W.J.H.*

Cult. One of the many new shrubs and trees lately introduced from Chili by Messrs. Veitch and Son. It is, no doubt, sufficiently hardy for the climate of the southern and western coasts of Great Britain, and also for other less favoured parts of the island when the winters are mild; but we would recommend its being treated, at present, as a greenhouse plant. Experiments should, however, be made in all situations, to ascertain the degree of cold it will bear; for if truly hardy it will prove a great acquisition to the ornamental shrubbery. Like most of the genus, it strikes freely from cuttings. *J. S.*

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Fig. 1. Bracts, calyx, and pistil:—*magnified*.

1.

# Tab. 4627.

## PENTSTEMON BACCHARIFOLIUS.

*Baccharis-leaved Pentstemon.*

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Nat. Ord. Scrophularineæ.—Didynamia Angiospermia.

*Gen. Char.* (*Vide supra*, Tab. 4318.)

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Pentstemon *baccharifolius*; caule erecto tereti pubescenti-glanduloso, foliis glaberrimis atro-viridibus coriaceis grosse spinuloso-serratis inferioribus spathulatis intermediis oblongis summis rotundatis, panicula terminali elongata, calycis brevis segmentis ovatis, corollæ (coccineæ) tubo infundibuliformi ore obliquo limbo subbilabiato, labio superiore bifido inferiore trifido, filamentis inclusis quinto sterili.

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At Tab. 4601 we had the pleasure of figuring a handsome new *Pentstemon, P. Wrightii*, reared from Texian seeds gathered by Dr. Wright; and now we have the satisfaction of giving another equally new and showy species derived from the same source, and, like that, quite hardy, flowering through the summer and autumn. It is so distinct that we cannot point to any other species with which it is at all likely to be confounded.

Descr. Annual? *Stems* erect, or decumbent at the base, a foot to a foot and a half high. *Stem* scarcely branched (except where it terminates in the panicle), terete, stout, and rigid, of a purple-brown colour, and, as are the pedicels, bracts, and flowers, even the corolla within and without, clothed with minute glandular pubescence. *Leaves* in rather distant pairs, rigid, dark green, spreading, coarsely and spinescently toothed or serrated (generally less so at the base), glabrous: the lower ones spathulate, upwards on the stem becoming oblong, and finally, nearest the flowers, rotundate, obscurely penninerved, all of them quite sessile. *Panicle* terminal, elongated; primary *peduncles* opposite, three-flowered, bracteated at the setting on of the peduncles and pedicels; *bracteas* small, broadly ovate, reflexed. *Calyx* small, cup-shaped, deeply cut into five imbricating, ovate segments. *Corolla* rich scarlet, an inch and a half long: *tube* infundibuliform, labially compressed, slightly ventricose below, the *mouth*

rather oblique, marked with a white ring: the *limb* obscurely two-lipped; upper lip two-lobed, lower of three larger lobes, all patenti-reflexed. *Stamens* included: the fifth stamen is an abortive glabrous filament. *Ovary* oblong, gibbous on one side at the setting on of the long slender *style*: *stigma* capitate. *W. J. H.*

Cult. This new species of *Pentstemon* is a native of the same region as *P. Wrightii*. Judging by the appearance of the plant after the severe frost in November last, we may conclude that it is not sufficiently hardy to live throughout the winter without some protection; it is therefore desirable to keep a stock in pots, that may be placed in a cool frame during the winter. Being a late-flowering species, it did not ripen its seeds, but, like the allied species of the genus, it may be increased by cuttings. *J. S.*

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Fig. 1. Pistil. 2. Stamens:—*magnified.*



1.

2

3

# Tab. 4628.

# GRINDELIA GRANDIFLORA.

*Large-flowered Grindelia.*

Nat. Ord. Compositæ-Asteroideæ.—Syngenesia Superflua.

*Gen. Char. Capitulum* pluriflorum, fl. radii circiter 5-ligulatis fœmineis, disci 7–8-tubulosis 5-dentatis hermaphroditis. *Involucrum* ovatum, squamis oblongis adpresse imbricatis. *Receptaculum* nudum. *Styli* florum disci appendiculati, hirtelli. *Achenia* obovato-teretiuscula, villosiuscula, radii calva, disci squamellis ovatis subacutis brevibus coronata.—Herba *suffruticosa Texana, erecta, ramosissima, glabra.* Rami *juniores sulcato-angulati, adulti teretes.* Folia *alterna, linearia, integerrima, uninervia, summa fere subulata.* Capitula *parva, ramulos terminantia, solitaria.* Flores *lutei.*

Grindelia *grandiflora*; elata simplex, apice corymboso, foliis e basi amplexicauli lata grosse dentato-serrata sensim acuminatis subintegerrimis, ramis apice monocephalis, involucri glutinosi squamis longe subulatis patenti-squarrosis, capituli radiis aurantiacis discum duplo superantibus.

Raised from seeds sent by Dr. Wright from Texas, and quite hardy, flowering in the open air as late as November 1st, when our drawing was made. In foliage the species certainly more closely resembles *G. inuloides*, Bot. Reg. t. 248, than *G. squarrosa*, figured in 'Botanical Magazine,' tab. 1706, but it appears on comparison distinct from both, especially in the great size of the flowers (*capitula*) and in the deep orange-yellow of the broad ray, no less than in the great height of the plant, three to five feet in our garden. It must be confessed, however, that the species of the genus are very variable and ill-defined.

Descr. The *root* appears to be annual or biennial, fibrous. *Stems*, on an average, four feet high, erect, herbaceous, simple, till towards the summit where they are corymbosely branched, each *branch* leafy and terminated by a flower. Whole plant hard and rigid, subglaucous. *Leaves* alternate, sessile, from a broad cordato-semiamplexicaul base, lanceolate, gradually tapering to a point; the base coarsely dentato-serrate, the rest nearly entire. *Flowers* (*capitula*) very large, solitary, on each terminal branch, full orange-yellow. *Involucre* hemispherical, glutinous: *scales* subulate, spreading or even recurved, squarrose, herba-

ceous. *Radical florets* ligulate, very long, with a slender tubular base. *Ovary* obovate, furrowed, bearing one or more setæ: *style* with the branches subulate. *Florets* of the *disc* tubular, five-toothed, of the *ovary* as in the ray, *setæ* three to six. *Style* much longer than the stamens, branches dilated upwards, downy. *Receptacle* foveolate. *W. J. H.*

Cult. A stout plant, growing freely during the summer months in the open air, and making a showy appearance when in flower. Towards autumn the stem becomes hard and woody; after flowering, the stem and roots are exhausted and die, showing that the plant is only a biennial. Like many Mexican *Compositæ*, it does not freely ripen seeds; but it may be readily increased by cuttings, which should be struck so as to have them established by the end of the summer, the young plants being kept in a cool airy place till the spring, when they may be planted out in the flower-borders. *J. S.*

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Fig. 1. Radial floret. 2. Floret of the disc. 3. Portion of the receptacle: —*magnified.*



# Tab 4629.

# BIFRENARIA Hadwenii.

*Mr. Hadwen's Bifrenaria.*

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Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char. Sepala* patula, libera; lateralia cum basi producta columnæ adnata, vix basi obliqua. *Petala* sepalis duplo minora. *Labellum* cum pede mucronato columnæ articulatum, cucullatum, trilobum, medio callosum. *Columna* brevis, semiteres, mutica. *Anthera* mutica, subcristata. *Pollinia* 4, per paria incumbentia, caudiculis duabus distinctis materiei viscidæ rostelli adhærentibus, glandula (oblonga).—*Epiphyta, pseudo-bulbosa*, Maxillariæ (*Colacis*) *habitu. Lindl.*

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Bifrenaria *Hadwenii*; foliis longis teretibus pendentibus acutis antice inferne præcipue sulcatis, pedunculis erectis unifloris vaginatis, ovario longissimo tereti, sepalis oblongis acuminatis patentibus uniformibus, labello amplo cucullato subrepando intus pubescente, crista applanata 3-dentata.

Bifrenaria Hadwenii. *Lindl. in Paxt. Fl. Gard. July* 1851, *p.* 67.

Scuticaria Hadwenii. *Hort.* (*Lindl.*)

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Communicated by Isaac Hadwen, Esq., of Liverpool, from the stove of his garden, in June 1851. It has a good deal the habit of *Maxillaria* (*Scuticaria*) *Steelii*, figured at our Tab. 3573, and it is no wonder that horticulturists placed it in the same genus; but Dr. Lindley observes that it departs from *Scuticaria* in the pollen-masses, and he refers it to *Bifrenaria*, though differing somewhat from that genus. It is a native of Brazil, and appears to have been first imported by Mr. Hadwen from Rio Janeiro. We have received plants at Kew from the same country, through our valued friend Mr. Miers, of Temple Lodge, Hammersmith. It flowered with Mr. Hadwen in May, with us in September.

Descr. Except that the foliage is shorter and not so flaccidly pendent, the general aspect of the plant is quite that of our *Maxillaria Steelii*. The *stem* or *caudex* is short, knotty, brown, throwing out a few cylindrical fleshy *roots*, and from a sheathing swollen base bearing *leaves* a foot and a foot and a half long, terete, furrowed on the inside, acute, dark green. From similar

sheathing bases, or short peduncles, the *flowers* appear, erect, solitary, with a very long terete *ovary*, resembling a continuation of the peduncles. *Sepals* all uniform, spreading, oblong, sharply acuminate, pale yellow-green, blotched or mottled with brown. *Lip* large, white, with flesh-coloured spots, obovate, cucullate, waved or repand at the margin, downy within, having an oblong callous swelling at the base, three-toothed at the apex. *Column* semiterete. *Anther-case* hemispherical. *W. J. H.*

Cult. This Orchid requires to be kept in the tropical Orchid-house. It is strictly epiphytal, and the appearance of newly-imported plants leads us to suppose that it grows in rather exposed and dry situations. At the Royal Gardens it grows on a suspended block of wood, and has flowered. The wood should be slightly inclined, in order to favour the pendulous habit of the plant. *J. S.*

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Fig. 1. Column and stamen. 2. Lip :—*magnified*.

# Tab. 4630.

# ROSCOEA purpurea.

*Purple-flowered Roscoea.*

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Nat. Ord. Scitamineæ.—Monandria Monogynia.

*Gen. Char. Calyx* tubulosus. *Corollæ tubus* sursum dilatatus, *limbi laciniæ* exteriores laterales angustæ, patentes, postica fornicata, erecta, *interiores* laterales breves, postice conniventes; *labellum* majus, bilobum. *Filamentum* brevissimum, carinatum, *anthera* incurva basi bicalcarata terminatum. *Ovarium* inferum, triloculare. *Ovula* in loculorum angulo centrali plurima, horizontalia, anatropa. *Stylus* filiformis; *stigma* globulare, perforatum. *Capsula* trilocularis, loculicido-trivalvis. *Semina* plurima, arillata.—Herbæ *Nepalenses; radice e* tuberibus *fasciculatis*, caule *erecto, folioso*, spica *subcapitata, bracteata. Endl.*

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Roscoea *purpurea*; spica brevi sessili pauciflora intra foliorum vaginas inclusa, labello obovato profunde bilobo, caule gracili, foliis lanceolatis angustissime acuminatis.

Roscoea purpurea. *J. E. Smith, Exot. Bot. v.* 2. *p.* 97. *t.* 108, and in *Linn. Trans. v.* 13. *p.* 460. *Royle, Ill. Himal. Bot. t.* 89. *f.* 3, (not of *Hook. Exot. Fl. t.* 144, nor of *Rosc. Monandr. Pl. t.* 86, nor *Lindl. Bot. Reg.* 1840. *t.* 61.)

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Reared from tubers sent to the Royal Gardens, from Khasya, in North-eastern Bengal, by Dr. Hooker; and these specimens (flowering in September 1851) exactly correspond with drawings made by that naturalist on the spot. They sufficiently accord with the original *R. purpurea* of Sir J. E. Smith, to satisfy us that it is identical with that species; whereas, further north, in Sikkim-Himalaya, Dr. Hooker detected and drew and transmitted living plants to Kew of what has been called *R. purpurea* by us (in 'Exotic Botany'), by Mr. Roscoe (in his fine work on Monandrian plants), and by Dr. Lindley (in 'Botanical Miscellany'). All the plants of these authors agree in being larger and stouter than the one now before us, with swollen stems and ovato-lanceolate approximate leaves, and flowers of a pale lilac-purple, with a very large and broad lip, nearly entire at the apex. We hardly dare venture to assert that the two kinds are *truly* distinct, though I am disposed to think them so: but whether species or varieties, our present plant, now we believe first

reared in England, is the same with the original *R. purpurea*, Sm., and as such it is here figured.

Descr. From a fasciculated cluster of tuberous *roots* arises a slender leafy *stem*, about ten inches long, slender, leafy, and clothed with the striated sheaths of the *leaves*, which latter are sessile, lanceolate, striated, and acuminated into a very fine narrow point. From two to three terminal, membranous, elongated, floral, sheathing *bracteas*, the *flowers* arise, altogether of a full purple colour. Tube of the *perianth* exserted. *Superior lobe* erect, fornicate: two *inferior* ones linear-oblong, patent; *lateral* ones short, connivent within the superior; *lip* large, deflexed, obovate, with two indistinct lateral lobes near the base; the apex deeply two-lobed, the lobes obtuse. *Anther* large, curved, with two conspicuous spurs at the base. *Style* passing between the two cells of the anther and terminating in a globose *stigma*, perforated and ciliated at the top. *W. J. H.*

Culr. The *Scitamineæ* are chiefly natives of India, and most of the species that have been introduced into this country require a warm stove; this Himalayan species, however, is sufficiently hardy to thrive in a cool pit, protected from frost. After the decay of the stems, the underground tuber-like rhizome remains in a dormant state during the winter. At this season the soil in the pots should be kept just sufficiently moist to preserve the tubers from shrivelling. Early in the spring these should be repotted in fresh soil, consisting of a mixture of light loam and peat, little or no water being given till they begin to grow, and then but sparingly; for being of a soft fleshy nature, the tubers are liable to rot off through any excess of moisture. *J. S.*

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Fig. 1. Tube of the perianth, with two lateral lobes, stamen, and stigma. 2. Ovary and base of style:—*magnified*.

# Tab. 4631.

# IMPATIENS fasciculata.

*Fascicle-flowered Balsam.*

Nat. Ord. Balsamineæ.—Pentandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4615.)

Impatiens *fasciculata*; erecta glabra, foliis oppositis sessilibus lanceolatis setaceo-serratis acutis basi utrinque calcaratis supra sub lente scabris, pedunculis axillaribus solitariis v. geminis longitudine foliorum, sepalis apice callosis lateralibus linearibus falcatis posteriore rotundato-ovato, calcare longissimo filiformi, petalis anterioribus magnis semiovatis hinc lobatis patentibus.

Impatiens fasciculata. *Lam. Encycl. v.* 1. *p.* 359. *Wight et Arn. Prodr. Fl. Penins. Ind. Or. p.* 138. *Wight, Ic. Plant. Ind. Or. v.* 3. *p.* 2. *t.* 748.

Balsamina fasciculata. *De Cand. Prodr. v.* 1. *p.* 686.

Impatiens setacea. *Colebr. in Hook. Exot. Fl. v.* 2. *t.* 137. *Miq. Pl. Ind. Or.* (M. Nilagiri) *ed. R. F. Hohenacker*, 1851. *n.* 1139. *Walp. Annal. v.* 1. *p.* 475.

Impatiens heterophylla. *Wall. in Rox. Fl. Ind.* (*ed. Wall.*) *v.* 2. *p.* 458. *Cat. n.* 4748 *a.*

Balsamina heterophylla. *Don.*

Seeds of this pretty *Balsam* were sent by Mr. Thwaites, from the hilly country of Ceylon, to the Royal Gardens of Kew, where the plants blossomed in the summer of 1851. The name "*fasciculata*" is not a very appropriate one; for though some of our wild specimens have the peduncles in opposite pairs, and hence appearing somewhat fasciculate, other specimens are not, and our cultivated plants had them invariably solitary in each axil. The genus or family is described as being destitute of stipules; but in the present species, unnoticed as far as I am aware by authors, yet figured by Dr. Wight's artist, is a remarkable deflexed and very conspicuous spur at the base of each side of the leaf and decurrent with the stem, which I can look upon in no other light than as a stipule. The plant is found in a great part of the continent of India, as well as in Ceylon, appearing all over the peninsula in marshy grounds, decorating them, as

Dr. Wight says, with its large showy pink flowers. Colebrooke gathered it in Sylhet; Dr. Griffiths in Khasya; and Drs. Hooker and Thomson along the whole Himalayan range.

Descr. An erect, soft, succulent-stemmed *plant*. *Leaves* varying a good deal in width, always more or less lanceolate, acute, serrated with setaceous teeth, pale beneath. *Peduncles* as long as the leaves, slender, patent, each bearing a single pale blush-coloured flower sprinkled in the centre with dark purple and yellow dots. *Calyx* and long filiform *spur* tinged with green. Anterior *petals* spreading like two broad wings, semi-ovate, and with a lobe on one side. *Spur* curved, sometimes almost as long as the peduncle. *W. J. H.*

Cult. This species requires the same kind of treatment, in every respect, as *Impatiens cornigera*, Tab. 4623; and being of the same nature, we fear it will be difficult to retain it as a garden plant, otherwise than by yearly importing fresh seeds from Ceylon. *J. S.*



# Tab. 4632.

# ECHINOCACTUS LONGIHAMATUS.

*Long-hooked Echinocactus.*

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Nat. Ord. Cacteæ.—Icosandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4124.)

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Echinocactus *longihamatus*; subglobosus viridis 13-angulatus, costis validis subacutis, areolis magnis oblongis breviter lanatis in tuberculis magnis rotundatis remotis positis, aculeis externis 9 rectis radiantibus, internis 4 validioribus, 3 superis erectis striatis, centrali longissimo planulato hamato. *Salm-Dyck.*

Echinocactus longihamatus. *Galeotti in Pfeiff. Abbild. v. 2. t.* 16. *Salm-Dyck. Cacteæ in Hort. Dyck. cult. p.* 28 *et* 152.

Echinocactus hamatocanthus. "*Muhlenpf. A. G. Z.* 1846, *p.* 371."

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We heartily wish all species of Cactaceous plants were as readily distinguished, and as easily defined in words, as is the present remarkably fine and handsome one:—remarkable in the very prominent ridges, the large and regularly arranged spines, the central one very long, flattened, and hooked at the end, and handsome in the size and colouring of its flowers, both in the bud and when fully expanded. It is a native of Mexico, and appears to have been introduced to our collections by M. Galeotti. It flowers with us in the Cactus-house in July.

Descr. Our flowering specimen is nearly globose, and almost a span high, deeply furrowed with about thirteen prominent, moderately acute *ridges*, whose edge is waved by the projecting tubercles in which the areolæ are slightly sunk. These *areolæ* are large, oblong, lined with short, dense, dark-coloured wool, from which proceed about twelve or fourteen long and strong *spines*, bright red when young, afterwards brownish-grey, tinged with red, especially at the base; most of them are radiately spreading, the outer ones the slenderest, the central one is remarkably long, four inches in length, flattened, deflexed, and curved into a hook at the extremity. *Flowers* large, handsome, between three and four inches long, and as broad from tip to tip of the petals. *Calyx-tube* dark green, studded with roundish scales,

red in the middle, white at the margins; these scales gradually pass into bright yellow *petals*, with a deep red blotch towards the apex, the innermost oblong-spathulate, acute or apiculate, only slightly tinged with red at the tip. *Stamens* numerous, yellow, crowded beneath the *stigma*, and scarcely longer than the tube of the flower: rays of the *stigma* ten to twelve, linear, pale yellow, spreading. *W. J. H.*

Cult. This species, like its allies, inhabits dry places, often enduring great heat and long drought, and at times deluged with rain; but, owing to the nature of the soil and situation of the plant, the water passes off so rapidly that but little reaches the soft fibrous roots. In order to cultivate these plants successfully, we must endeavour to place them under conditions as nearly resembling those here described as the nature of our climate will permit. Many species of *Echinocacteæ* will endure a low temperature, even to freezing, without being injured; but in this country it is necessary to grow them under glass. As stated at Tab. 4417, it is not generally important as to the kind of soil in which *Cacteæ* are grown if it be not retentive of water. A mixture of light loam and leaf-mould, with a small portion of lime-rubbish nodules, is suitable for most of them. The general practice is to grow them singly in pots, but where circumstances permit we would plant them on artificial rockwork within the house, exposed to the full influence of the sun, and so arranged as to allow all superfluous water to pass off quickly. A few inches' depth of soil will be sufficient for the roots. By this method the soil can be kept at a more uniform degree of moisture in winter; the roots being, therefore, less liable to injury from the frequent watering necessary in pot cultivation. In summer, full exposure to the sun, and frequent syringing, will be found beneficial. *J. S.*

# Tab. 4633.

# DRYANDRA nobilis.

*Handsome Dryandra.*

Nat. Ord. Proteaceæ.—Tetrandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4317.)

Dryandra *nobilis*; ramis villosis, foliis petiolatis elongato-linearibus, lobis isosceleo-triangularibus submucronato-acutis decurrenti-subconfluentibus margine recurvis supra lævibus glabris subtus plurinerviis reticulatis canotomentosis, capitulis lateralibus (seu ramo brevi terminalibus), involucri foliolis exterioribus foliaceis serratis interioribus membranaceis oblongis recurvis intus glabris striatis capitulo multo brevioribus, calyce supra basin glabrum lanato laminis sericeis apice barbatis, stylo prælongo glabro, stigmate cylindrico sulcato obtusiusculo.

Dryandra nobilis. *Lindl. Swan River Bot. p.* xxxviii. *n.* 158. *Meisn. in Pl. Preiss. v.* 1. *p.* 592.

Reared from seeds sent by Mr. Drummond from the Swan River settlement. We can scarcely doubt its being the *D. nobilis* of Lindley and of the 'Plantæ Preissianæ;' yet our flowering plant, in May 1851, was considered by Dr. Meisner (author of the *Proteaceæ* of the last-mentioned work) as a new species, which he proposed to call *Dryandra runcinata*. It is a really handsome shrub.

Descr. Our plants have attained a height of about four feet (they reach seven feet, according to Preiss), and are erect, much branched; the *branches* woolly, copiously clothed with *leaves* a span or more long, spreading, recurved, hard, coriaceous, petiolate, pinnatifid almost to the midrib; the *lobes* ovate, acute, runcinato-recurved and very decurrent, tipped with a mucro; the leaves are dark green above, and glabrous, below veiny and white with dense compact *tomentum*. *Capitula* large, yellow, on short lateral *branches*. Outer leaves of the *involucre* foliaceous, lobed or *serrated*. *Sepals* glabrous at the base, woolly above, bearded at the apex. *Style* filiform, much longer than the sepals. *Stigma* elongated, nearly cylindrical. *W. J. H.*

February 1st, 1852.

Cult. A woody greenhouse plant, belonging to a tribe of plants that were at one time in high favour with cultivators. Of late years, however, they have fallen in estimation, owing partly to the belief that they are short-lived, and partly to the introduction of more showy plants. That they are short-lived, if not properly treated, is true; but in the Royal Gardens may now be seen plants fifty years old, and many above half that age. At Tab. 4528 we have described the method of cultivating *Proteaceæ* practised by us for many years past. The present plant is grown in light loam, mixed with a small portion of sharp sand. On shifting it into a larger pot or tub, we invariably keep the ball of earth an inch or more (according to the size of the plant) above the surface of the new soil: this is of importance for prolonging the life of the plant, as it prevents any excess of moisture lodging around the base of the stem. In summer care must be taken not to allow the direct rays of the sun to strike against the sides of the pot; for the heat transmitted to the inside destroys the tender spongioles of the roots, and the plant flags and dies. *J. S.*

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Fig. 1. Flowers:—*magnified*.

# Tab. 4634.

# ECHINOCACTUS RHODOPHTHALMUS;

## *var.* ELLIPTICUS.

*Red-eyed Echinocactus; elliptical variety.*

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Nat. Ord. Cacteæ.—Icosandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4124.)

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Echinocactus *rhodophthalmus.* (*For specific character and description, see* Tab. 4486.)

Var. *ellipticus;* basi contractus; spinis rubescentibus.

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It was not till all the plates were worked off for publication that we ascertained that this Mexican *Echinocactus* was specifically the same as that we have given at our Tab. 4486, differing almost solely in its smaller size, more elliptical form, *i. e.*, with the base contracted instead of spreading so as to give a conical form to the stock, and in the redder colour of the spines. We can only consider it as a variety of a groupe of plants which is very apt to sport. *W. J. H.*

Cult. This is a variety of the species figured at Tab. 4486, and will succeed if treated in the manner there described. *J. S.*

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Fig. 1. Cluster of spines, separated from the plant, and very slightly *magnified.*

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March 1st, 1852.



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# Tab. 4635.

# ARAUCARIA columnaris.

*Pillared Araucaria.*

Nat. Ord. Coniferæ.—Diœcia Monadelphia.

*Gen. Char. Flores* dioici. *Amenta staminigera* terminalia, solitaria, cylindrica, sæpe elongata, nuda v. perulis inclusa. *Stamina* plurima, axi inserta, imbricata; *filamenta* horizontalia, linearia, compressa, apice in connectivi processum squamæformem subcoriaceum lanceolatum incurvatum producta; *antheræ loculi* 12–20, e connectivi basi biseriatim penduli, cylindrici, filamento paralleli, ante anthesin inflexi, postice rima longitudinali aperti. *Amenta seminifera* solitaria, terminalia, nuda. *Squamæ* plurimæ, ebracteatæ, axi insertæ, dense imbricatæ, apicem versus incrassatæ et in mucronem subfoliaceum productæ. *Gemmula* sub quavis squama unica, eidem prope apicem lata basi inserta, inversa, atropa, integumento exteriore squamæ faciei toto adnato loculum solo apice hiantem formante, basi ad chalazam in lobulum brevem alæformem liberum producta, nucleo intra loculum libero, vertice breviter exserto. *Strobilus* globosus, e squamis incrassatis, lignescentibus, densissime imbricatis, plerisque gemmulæ abortu sterilibus, ab axi solvendis. *Semina* sub quavis squama solitaria, inversa, intra loculum ex integumento exteriore lignoso, cum squama concreto formatum, basi in lobulum brevem alæformem productum apice hiantem hilo lato inserta, libera, vertice brevissime exserto, integumento proprio membranaceo. *Embryo* in axi albuminis carnosi antitropus, ejusdem longitudine, *cotyledonibus* 2–4 semicylindricis, *radicula* cylindrica, infera.—Arbores *excelsæ*, ramis *verticillatis*, gemmis *nudis*. Folia *plana*, *sessilia*, *dense imbricata*, *utrinque præter nervum medium stomatum fasciis notata*, *v. in planta juniore heteromorpha*, *a lateribus compressa*, *margine altero sursum altero deorsum spectante et in ramo decurrentia*, *linearifalcata*, *acuta*, *rigida*. Maturatio *biennis*. *Endl.*

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Araucaria (Eutacta) *columnaris;* foliis adultis arcte imbricatis incurvis convexis obtusis dorso carinatis, amentis fœmineis elliptico-ovatis, squamis dispermis coriaceis margine membranaceis supra plano-concavis apicibus sursum curvatis arcte imbricatis mucrone longo reflexo terminatis.

Dombeya columnaris. *Forst. Prodr. p.* 67, *in part: excluding the station of* "Norfolk Island."

Araucaria Cookii. *Br. MS.* (*fide D. Don in Act. Soc. Linn. v.* 18. *p.* 164). *Lindl. in Journ. Hort. Soc. Lond. v.* 6. *p.* 207. fig. D.

Araucaria excelsa. *Lamb. Pin. p.* 87 (*in part*). Tab. 39. fig. *a* and *c*.

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In this country our first knowledge of this tree is derived from young plants kindly sent to the Royal Gardens in the autumn of 1851 by the Horticultural Society of London, and his Excellency Sir William Denison, Governor of Van Diemen's Land. Capt. Erskine, R.N., of H.M.S. Havannah, had recently visited New Caledonia and some of the adjacent islands, and had invited Mr. Moore, of the Botanic Garden, Sydney, to accompany him; and to Mr. Moore's energy and kindness we are indebted for the re-discovery of this tree and for the possession of

the appearance of those of *Araucaria Cunninghami*, and are very little different from those of *A. excelsa*, except that this latter is more regular and uniform in its whorls of branches. The *young leaves* are sparse, rather distant, four lines long, subulate, broad and slightly decurrent at the base, laterally compressed, ending in a fine sharp point or mucro, all these with a slightly downward curve; whereas the *adult leaves* on the old branches and branchlets are densely imbricated, even to the very point of the branches; all are short and broadly ovate (fig. 1, 2, 4), obtuse, concave on the upper side, with a blunt or flattened, often oblique, ridge or carina on the underside. *Male cones* terminal, oblong, an inch and a half long, thrice as wide as the branchlet producing them; the scales closely imbricated (as the leaves on the branches), cordato-ovate, acute, finely denticulate, bearing at the base ten to twelve subulato-cylindrical *anther-cells*. *Female cones* on short, lateral branches, apparently generally in pairs, between ovate and elliptical, from four to five inches long, three and a half to four inches broad, formed of extremely compact imbricated, broadly ovato-cuneate coriaceous *scales*, membranaceous at the margins, plane or nearly so both above and beneath, the apex suddenly turning up at an angle, and there thickened, and of an olive-green colour, under a microscope seen to be studded with opake resinous dots; this turned-up apex of the scale* is the only portion seen in the entire cone, and it suddenly contracts into a rather long, recurved, subulate, brown mucro. Lodged within the disc of this scale (forming one with the scale) we find two oblong seeds. *W. J. H.*

Cult. It will be advisable to keep young plants of this new species in a warm greenhouse during winter. The few that have yet come under our notice appear to grow as freely as *A. excelsa* and *Cunninghami*. Light loam, mixed with a small quantity of leaf-mould, suits them; and by timely shiftings into larger pots, and keeping the branches free from being crowded with other plants, they will in a few years form graceful trees, which may be placed out-of-doors in sheltered situations during summer. *J. S.*

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Tab. 4635 exhibits a male branch, with antheriferous cones; and a female branch, with fertile cones:—*natural size*. Fig. 1, front, and 2, back view of adult leaves:—*magnified*. 3. Scale from a male cone or anther:—*also magnified*.

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* In *Araucaria excelsa* these scales are very thick and woody, remarkably gibbous, both above and beneath; and this structure gives quite a different character to the cone from that of *A. columnaris*, independent of the short and not recurved mucro. The cones of *A. Cunninghami* are remarkable for the rich mahogany-brown colour: the scales have a *very* broad membranaceous wing, and there is, at the tip only, a considerable thickening both on the upper and lower side occasioning a flattened apex, from the centre of which the mucro seems to spring.

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Reeve & Nichols, imp

# Tab. 4636.

# OXYANTHUS TUBIFLORUS.

*Long-flowered Oxyanthus.*

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Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

*Gen. Char. Calycis tubus* ovatus, *limbus* brevis, acute 5-dentatus. *Corollæ tubus* longissimus, *faux* glabra, *limbus* 5-partitus regularis, laciniis oblongis acuminatis. *Stamina* 5 e fauce libera exserta; *antheræ* acutissimæ. *Stylus* filiformis, apice clavatus, ultra antheras exsertus. *Fructus* bilocularis, verisimiliter baccatus.—Frutices *Guineenses*. Folia *elliptica, acuminata, breve petiolata*. Stipulæ *oblongo-triangulares, tarde deciduæ*. Pedunculi *axillares, racemoso-corymbosi. De Cand.*

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Oxyanthus *tubiflorus;* ramulis calycibus foliisque subtus obscure puberulis, foliis brevissime petiolatis obovato-oblongis brevi-acuminatis supra glaberrimis basi inæquilateraliter subcordatis, stipulis ovato-acuminatis adpressis, racemis solitariis axillaribus plurifloris, calycis dentibus subulatis, corollæ tubo foliis duplo longioribus.

Oxyanthus tubiflorus. *De Cand. Prodr. v.* 4. *p.* 376.

Gardenia tubiflora. *Andr. Bot. Rep. t.* 183.

Oxyanthus speciosus. *Ait. Hort. Kew. ed.* 2. *v.* 1. *p.* 371. (*not De Cand. nor Sims.*)

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Sent from Knowsley, by the late Earl of Derby, who received his plants from Sierra Leone. This plant proves to be the same as one long cultivated in the Royal Gardens of Kew, and given as *Oxyanthus speciosus* of De Candolle, in the second edition of the 'Hortus Kewensis,' but which De Candolle, in his 'Prodromus,' pronounces not to be his *speciosus* (Ann. du Mus. vol. ix. p. 218, and Prodr. vol. iv. p. 376), which has flowers much shorter than the leaves. The *O. speciosus* of Sims and Lindley (Coll. Bot. t. 13) is the *hirsutus* of De Candolle. The present is a stove-plant, bearing its fragrant remarkably long blossoms in July.

Descr. A moderate-sized *shrub*, with the young *branches* at least puberulous (as is the underside of the younger foliage). *Leaves* opposite, four to five inches long, obovate-oblong, shortly acuminate, penniveined, entire, glabrous especially above, the base somewhat cordate, but the two sides unequal. *Petiole* very short. *Raceme* solitary, axillary, on a very short *peduncle*,

bracteated; *bracteas* almost cuspidate. *Calyx* infundibuliform; portion of the tube free above the germen; *teeth* short, subulate. *Corollas* with the tube white or greenish, six inches long, slender: *limb* of five spreading, lanceolate segments, an inch and a half long, at first white, then tawny. *Filaments* extremely short, inserted at the mouth of the tube: *anthers* subulate. *Ovary* cylindrical, surmounted by a thick fleshy *disc*, embracing the base of the style: *stigma* much exserted, clavate, shortly two-lipped at the apex. *W. J. H.*

Cult. A tropical evergreen shrub, and an old inhabitant of the Royal Gardens. It grows and flowers freely in a warm stove, planted in a mixture of light loam and sandy peat-soil, care being taken that the pot is well drained. Being of low growth, it is suitable for being placed on the side-shelves of the stove. It is readily increased by planting cuttings under a bell-glass and placed in bottom-heat. *J. S.*

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Fig. 1. Calyx and pistil:—*scarcely magnified.* 2. Ovary:—*magnified.*

Fitch, del et lith.

Reeve & Nichols, imp.

# Tab. 4637.

# EUCALYPTUS COCCIFERA.

*Coccus-bearing Gum-tree.*

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

*Gen. Char. Calycis tubus* persistens, obovatus aut globosus, cupulæformis; *limbus* operculæformis, integer, basi circumscisse et regulariter dehiscens, deciduus. *Petala* 0. *Staminum filamenta* 00, libera. *Capsula* 4-locularis aut abortu 3-locularis, apice dehiscens, polysperma. — Arbores (*Novæ Hollandiæ*) *excelsæ*. Folia *integerrima, coriacea, sæpius alterna, rarius opposita, interdum in iisdem individuis varia, paucis exceptis glaberrima.* Pedunculi *axillares breves, umbellam* 3–15-*floram gerentes.* Operculum *in nonnullis ex. cl.* R. Brown (gen. rem. 68), ***duplex, exterius calycinum, interius corollinum.***

Eucalyptus *coccifera;* arborescens glauca, ramis junioribus angulatis, foliis alternis sublonge petiolatis coriaceis punctatis marginatis planis obsolete penninerviis apice uncinato-acuminatissimis, corymbis terminalibus multifloris (nunc foliiferis), pedicellis ancipiti-compressis, operculo hemisphærico centro depresso, calyce obconico rugoso (perglauco) angulis 4 elevatis, staminibus numerosissimis flavis.

Eucalyptus coccifera. *Hook. fil. in Lond. Journ. of Bot. v.* 6. *p.* 478. *Lindl. in Journ. of Hort. Soc. Lond. v.* 6. *p.* 221 (cum ic.).

A native of Van Diemen's Land, on mountains, detected by the late Mr. Lawrence, who observed that the foliage was much infested with a *Coccus*, and subsequently found by Ronald Gunn, Esq., in whose collections it is indicated as n. 411 and 1076. It has been, however, for many years in cultivation in England, as a standard, in the beautiful gardens of Mr. Veitch, where it forms a most graceful tree twenty feet and more high, and about London braving our severe winters when trained to a wall. Our tree flowers copiously at the beginning of winter.

Descr. A moderate-sized *tree*, everywhere clothed with glaucous bloom, but especially on the peduncles and flowers: young *branches* angular: the old ones terete. *Leaves* alternate, upon rather long, terete *petioles*, spreading, or more usually drooping, lanceolate, very flat, coriaceous, thickened, and somewhat red at the margin, the apex suddenly acuminated in a long uncinate

mucro :—both surfaces of the leaves are glanduloso-punctate and penninerved, the nerves rather remote, subobsolete, and meeting another longitudinal and still more indistinct nerve near the margin. *Inflorescence* a terminal many-flowered *corymb*, bearing one or more leaves, indicating rather axillary umbels of from three to five flowers, some of the leaves being abortive. *Peduncles* two-edged. *Operculum* short, hemispherical, wrinkled, depressed in the centre. *Stamens* very numerous, lemon-yellow. *Calyx* and *fruit* obconical, much wrinkled, and marked with four elevated longitudinal ridges. *Style* very short, sunk in the tubular portion of the calyx. *W. J. H.*

Cult. This, like most of the plants from Van Diemen's Land, must be treated as a greenhouse plant, but being of rapid growth, it soon becomes too large for the loftiest greenhouse, and, consequently, must be cut down or planted out-of-doors. If our winters were never more severe than the one just past, this would not be necessary, for when we have a succession of mild winters, *Eucalypti* sometimes attain a height of twenty feet and upwards, but a severe winter kills them to the ground; it is therefore only in the south and western parts of England, and other localities favoured with mild winters, that this plant may be expected to attain a height that will entitle it to be called a forest tree; and it would probably do so if planted in a sheltered situation amongst other trees. Plants of it are easily obtained from seeds, which, like those of *Myrtaceæ* generally, do not readily lose their vitality by the sea voyage. They vegetate quickly when placed in a moderate heat; and when they are about half an inch high they should be transplanted singly into pots; if, however, intended for planting in the open air, it is very desirable that they should not be kept there long in small pots, for the main or tap root, by being confined, forms a spiral coil, which thickens with the growth of the plant, and ultimately proves a very insecure support to the tree, which, on account of its rapid growth, and the resistance of its dense foliage, is unable to withstand high winds. *J. S.*

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Fig. 1. Calyx on immature fruit :—*magnified.*

Fitch, del et lith.

Reeve & Nichols imp.

# Tab. 4638.

# OLEARIA Gunniana.

## *Mr. Gunn's Olearia.*

Nat. Ord. Compositæ.—Syngenesia Superflua.

*Gen. Char. Capitulum* multiflorum, heterogamum, *floribus radii* 1-seriatis ligulatis fœmineis, disci tubulosis hermaphroditis 5-dentatis. *Receptaculum* alveolatum, planiusculum, pedunculo apice cavo obconico insidens. *Involucri squamæ* imbricatæ, adpressæ, post fructificationem patentes. *Stamina* radii abortiva, disci filamentis brevissimis donata. *Stigmata* disci cochleariformia. *Achenium* cylindraceo-tetragonum, villosum. *Pappus* duplex, exterior brevis paleaceo-setosus, interior setosus longus scaber.—Frutices *Novo-Hollandici facie* Eurybiæ. Folia *alterna, petiolata, ovata, repanda seu obtuse dentata aut integra, supra sparse villosa, subtus ramique dense tomentosa.* Pedunculi 1-*cephali, rigiduli, ad apices ramorum* 1–3. Discus *flavus.* Radius *albus seu carneus.*

Olearia *Gunniana;* fruticosa, ramis pedunculis involucris foliisque subtus dense cano-tomentosis, foliis elliptico-lanceolatis brevissime petiolatis sinuato-dentatis supra glabratis, pedunculis in ramulos breves subterminalibus solitariis vel subcorymbosis bracteolatis, capituli radiis albis, acheniis tuberculato-punctatis.

Olearia Gunniana. *Hook. fil. MS.*

Eurybia Gunniana. *De Cand. Prodr. v.* 5. *p.* 268.

This is another interesting plant of Van Diemen's Land, which braves the cold of England, and even the vicinity of London, provided it be trained against a wall. In such a position it has long been cultivated in the Royal Gardens of Kew, flowering copiously late in the autumn. We wish it had more beauty to recommend it. It was raised from seeds sent by Mr. Gunn, by whom, as its name implies, it was first detected. We think Dr. Hooker has properly referred it to *Olearia*, and that *Eurybia subrepanda*, De Cand., is merely one of the many forms of the same variable species: variable especially in the size and incision of the leaves, and scarcely less so in the length of the peduncles and the more or less crowded flowers. Sometimes the blossoms are as copious as the leaves.

Descr. A moderate-sized bushy *shrub*, very much branched, ultimate *branches* often very short. *Leaves* numerous, varying much in length in our native specimens, from half an inch to

two inches long*, on short petioles, oblong- or linear-lanceolate, generally rather deeply sinuato-dentate at the margin, penni-nerved, the nerves deeply impressed above and there the surface is nearly quite glabrous, often wrinkled with reticulated veinlets: below, as on the branches, peduncles, and involucres, white with dense compact tomentum. *Peduncles* subterminal, on short branches, single-flowered, or elongated and panicled with several flowers or capitula, bracteolated. *Involucre* of several small imbricated downy scales. *Florets* of the *ray* white, of the *disc* yellow. *Achenium*, at least of the central florets, punctato-tuberculate. *Bristles* of the *pappus* rough, the *scales* lanceolate, with fringed serratures. *W. J. H.*

Cult. A native of Van Diemen's Land, and, like the preceding species, sufficiently hardy to thrive in the open air of this climate in mild winters. It forms a low evergreen bushy shrub, well suited for the front row of shrubbery borders. In summer, when in flower, it presents a very showy appearance, which makes it worth while to keep a stock of young plants under protection to meet the casualties of a severe winter. It flowers freely if treated as a greenhouse plant, and is readily increased from cuttings. *J. S.*

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Fig. 1. Floret of the ray. 2. Floret of the disc. 3. Seta and scale of the pappus.

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* We are not sure but that specimens in our possession, with leaves four inches long and one broad, belong to the same species.



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Fitch, del et lith.

Reeve & Nichols, imp.

# Tab. 4639.

# SARCANTHUS FILIFORMIS.

*Slender-leaved Sarcanthus.*

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Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char. Perianthium* explanatum. *Sepala* et *petala* subæqualia. *Labellum* breve calcaratum, trilobum, carnosum, cum columna articulatum; *calcare* intus ½ biloculari. *Columna* erecta, semiteres. *Anthera* bilocularis. *Pollinia* 2, postice lobata, *caudicula glandulaque* variis.—Herbæ *epiphytæ, caulescentes.* Folia *disticha, plana v. teretia.* Racemi *oppositifolii.* Flores *speciosi. Lindl.*

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Sarcanthus *filiformis;* foliis tereti-filiformibus, racemis multifloris, sepalis petalisque reflexis, labello apice ovato, fauce utrinque bidentato, apice calcaris didymo, columnæ facie glabra.

Sarcanthus filiformis. *Lindl. Bot. Reg.* 1842. *Misc. p.* 61.

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Introduced by Dr. Wallich from India. Though the flowers are smaller than those of *S. teretifolius*, figured at our Tab. 3571, they are much more numerous on the stalk and more highly coloured; the plant may be said to be graceful, with its long, slender, terete leaves and its drooping raceme. It blossoms in our Orchideous stove in September.

Descr. *Stem* terete, branched, thicker than a crow's quill. *Leaves* alternate, a foot to a foot and a half long, equal in thickness to the stem and equally terete, tapering to a point, fleshy, pendent. *Raceme* a span and more long, pendent, with thirty or forty small flowers, each with a very minute green *bractea* at the base. *Sepals* ovate, concave, acute, reflexed, deep chocolate-colour, with a pale green nerve and margin. *Petals* small, linear, of the same colour as the sepals. *Lip* white, tinged with yellow and purple, thick, fleshy, ovate, three-lobed, with an obtuse didymous *spur* at the base; side-lobes small, incurved, cut into two blunt teeth, the middle one acute, bent

upwards. *Column* large, nearly as broad as the lip, bright yellow, glabrous: the stigmatic surface red. *Anther-case* yellow. *Pollen-masses* oval. *Caudicula* geniculated at the base. *W. J. H.*

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Fig. 1. Flower. 2. Pollen-masses:—*magnified.*




Reeve & Nichols imp.

# Tab. 4640.

# DENDROBIUM AQUEUM.

*Watery Dendrobium.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4352.)

Dendrobium *aqueum;* caule tereti-compresso articulato striato, foliis distichis ovato-lanceolatis acuminatis striatis, sepalis petalisque late ovatis acutis patentibus, cornu brevi obtuso, labello subrhombeo-ovato trilobo supra pubescente, lobis lateralibus parvis obtusis incurvis terminali triangulari denticulato-fimbriato nervoso disco medio excavato basin versus linea lata elevata.

Dendrobium aqueum. *Lindl. in Bot. Reg.* 1843. *Misc. n.* 6. *t.* 54.

Our first knowledge of this plant was from the Orchids in the collection of the late Rev. William Clowes; and more recently we have received it from Bombay, through the kindness of our friend Mr. Law. Both these have blossomed. The foliage is good, and it accompanies the flowers; and what the blossoms want in colour is made up in size.

Descr. *Stems* stout, jointed, compressed, striated, leafy (at the time of flowering), yellow-green. *Leaves* distichous, ovate, the upper ones smaller and lanceolate, all submembranaceous, sharply and suddenly acuminated, striated with the longitudinal nerves, dark green above, paler and yellower beneath. *Flowers* solitary, or two together, large, rising from the axils of the leaves, cream-white. *Ovary* club-shaped, tapering below into a peduncle. *Petals* and *sepals* uniform, spreading, broadly ovate, rather acute, nearly plane. *Lip* recurved from the middle, ovato-rhomboid, obscurely three-lobed; two lateral lobes small, the intermediate one large, triangular; the lower half has an elevated ridge, and under its termination a depression, and that part has a deep yellow blotch; the underside is glabrous, the upper surface very downy and striated, the margin of the terminal lobe fringed with soft cilia. *Column* much prolonged at its base where it bears the labellum. *Anther-case* hemispherical. *W. J. H.*

Fig. 1. Column and ovary. 2. Pollen-masses. 3. Front view of the lip:—*magnified.*

April 1st, 1852.

1.

2.

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4.

Fitch. lic. et lith. .

Reeve & Nichols imp.

# Tab. 4641.

# BENTHAMIA FRAGIFERA.

## *Strawberry-fruited Benthamia.*

Nat. Ord. Corneæ.—Tetrandria Monogynia.

*Gen. Char. Flores* capitati, involucrati. *Calyx* ovario adnatus, limbo supero cupulari persistente. *Corolla* supera, tetrapetala, calycis fauci affixa. *Stamina* 4, calyci inserta, libera. *Ovarium* calyci innatum, biloculare, ovulo unico pendulo in quovis loculo. *Stylus* simplex, clavatus, *stigmate* truncato, basi intra calycem disco 4-lobo cinctus. *Drupæ* carnosæ, monopyrenæ, omnes in quovis capitulo in unam quasi polypyrenam coadunatæ. *Pyrena ossea.*—Arbores *v.* frutices *Asiæ temperatæ. Zuccar.*

Benthamia *fragifera;* foliis oblongis acuminatis subtus præcipue pilis appressis nunc malpighiaceis arctissime appressis canescentibus, calycis limbo quadridentato.

Benthamia fragifera. *Lindl. Bot. Reg. t.* 1579. *Trans. of Hort. Soc. 2nd Ser. v.* 1. *p.* 457. *t.* 17. *Walp. Repert. Bot. v.* 2. *p.* 435.

Cornus capitata. *Wall. in Roxb. Fl. Ind. ed. Wall. v.* 1. *p.* 434. *De Cand. Prodr. v.* 1. *p.* 434. *Wall. Pl. Asiat. Rar. v.* 3. *p.* 10. *t.* 214.

A hardy shrub, no doubt, as Dr. Lindley designates this handsome plant; but it is only in the milder regions of the south-west of England and Ireland that we are privileged to see it flowering copiously and bearing its beautiful-looking fruit in the open air. The fruiting specimen here figured was sent from the Belfast Botanic Garden, in December, 1849, by our friend Mr. Ferguson. We have received equally fine ones from Mrs. Buck, of Moreton, North Devon; and we know that at Heligan, in Cornwall, and at Sir Charles Lemon's, Carcleugh, the large and highly-coloured fruit is abundantly produced. Dr. Wallich, who discovered it on Chandaghiry, in Nepal, speaks of the tree as of the size of an apple-tree, and covered with yellow heads of scentless blossoms in June. We possess copious specimens, gathered by Dr. T. Thomson at Kamaon and Mussoree, by Major Madden at Simla, and by the late Mr. Griffith in Bootan. A second species has been discovered by Dr. Siebold on mountains of

Japan (*B. Japonica*, Fl. Jap. t. 16), only differing from this, it would appear, in the entire, not four-lobed limb of the calyx; for assuredly the Malpighiaceous hairs on which the author lays stress, as characteristic of *B. Japonica*, are found equally on the present species. The fruit, tempting as it looks, is only eaten by the inhabitants of the Himalayan hills.

Descr. We believe that in favourable situations this has attained in England a height of twenty feet; more usually it is a low bushy shrub, copiously branched. *Leaves* oblong or broad-lanceolate, acuminate, quite entire, shortly petiolate, pubescent on both sides, but most so and nearly hoary beneath, with very close-pressed shortish hairs, many of which are Malpighiaceous. *Peduncles* terminal, solitary, bearing a dense globose head of small whitish flowers, surrounded by a large four-leaved *involucre*, each leaf broadly obovate, buff-coloured and subcoriaceous, veined. *Tube* of the *calyx* obconical, somewhat angular by mutual pressure of the adjacent flowers. *Limb* four-lobed, scabrous. *Petals* four, concave, ovate. *Stamens* four, as long as the petals. *Style* short, columnar, surrounded by a tubular lobed and furrowed *disc* or *nectary*. *Stigma* peltate. *Fruit* nearly as large as a nectarine, formed of the united large *acini*, which exhibit their four-sided apices on the surface, of a deep red-orange colour. *W. J. H.*

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Fig. 1. Involucre and head of flowers:—*natural size*. 2. Head:—*slightly magnified*. 3. Flowers:—*more magnified*. 4. Section of calyx, showing the nectary and style:—*more magnified*.

4642



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# Tab. 4642.

# BESCHORNERIA TUBIFLORA.

*Tube-flowered Beschorneria.*

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Nat. Ord. Amaryllideæ.—Hexandria Monogynia.

*Gen. Char.* *Perigonium* superum, corollaceum, profunde sexpartitum, fundo nectarifluum; *laciniis* tubuloso-conniventibus, apice patulis, plurinerviis; sepalinis late lineari-spathulatis, acutiusculis; petalinis vix brevioribus, paulo latioribus, obtusis. *Stamina* 6, fundo perigonii inserta, æqualia, erecta, perigonio parum breviora. *Filamenta* subulata, distincta, basi paulo incrassata, in alabastro recta. *Antheræ* biloculares, lineari-lanceolatæ, obtuso-emarginatæ, basi sagittato-bilobæ, dorso infra medium affixæ, secundum longitudinem interne dehiscentes, demum incumbentes, mobiles. *Ovarium* inferum, subclavatum, obtuse hexagonum, triloculare; vertex liber, conicus, profunde trisulcatus; *ovula* in loculis crebra, biseriata, complanata, horizontalia, anatropa. *Columna stylina* erecta, tenuis, trisulcato-triangularis. *Stigma* columnæ stylinæ æquicrassum, indivisum, obtusum, papillosum. *Fructus* . . .—Planta *acaulis*. Folia *radicalia cæspitosa, anguste linearia, carinato-canaliculata, recurvata, subtilissime spinuloso-denticulata.* Scapus *erectus, longissimus, simplex.* Flores *per paucos fasciculato-congesti;* bracteis *suffulti, longe pedunculati, nutantes;* fasciculis *remotis, secundis. Kth.*

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Beschorneria *tubiflora.*

Beschorneria tubiflora. *Kunth, Enum. Plant. v.* 5. *p.* 844.

Fourcroya tubiflora. "*Kunth et Bouché, Ind. Sem. Hort. Berol.* 1845."

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Imported from Mexico to the Royal Gardens of Kew, where it produced its Agave-like blossoms in a cool greenhouse in February 1852. Professor Kunth considers the genus to be intermediate between *Littæa* (Agave, sect. 2) and *Furcræa*, differing from the latter in habit, from the former in its included stamens, and from both in the tubular flower.

Descr. Stemless. *Leaves* radical, tufted, spreading and more or less recurved, linear, sword-shaped, very much acuminated, eighteen inches to two feet long, thickened and narrowed and triangular at the base, minutely striated, glaucous-green, beneath rough to the touch, and when seen under the microscope muricated on the nerves, and sharply denticulated at the margin. *Scape* erect, in our plant four feet high, bearing a many-flowered

erect *raceme*. *Flowers* fascicled, two to four from the top of a blunt tooth or swelling, bearing a large purple-coloured, ovate, membranaceous *bractea*. *Flowers* drooping. *Pedicels* shorter than the bractea, green, terete, bearing each a subulate bracteole at its base. *Ovary* inferior, oblong, six-angled, purplish-green. *Perianth* divided to the top of the ovary, into six green, spathulate, nearly equal *segments* (brownish-purple externally), erect and approximating into a tube, the apices only spreading. *Stamens* six, equal, erect, rather shorter than the perianth; *filaments* subulate; *anthers* linear-oblong, pale green. *Style* dilated and six-angled at the base; *stigma* small, three-lobed. *W. J. H.*

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Fig. 1. Portion of the back of the leaf. 2. Pistil:—*magnified*.



2

3.

Fitch del et lith

F Reeve, imp.

# Tab. 4643.

# HAKEA myrtoides.

*Myrtle-like Hakea.*

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Nat. Ord. Proteaceæ.—Tetrandria Monogynia.

*Gen. Char. Perianthium* 4-phyllum, irregulare, foliolis secundis, apicibus cavis staminiferis. *Antheræ* immersæ. *Glandula hypogyna* unica, dimidiata. *Ovarium* pedicellatum, dispermum. *Stigma* subobliquum, e basi dilatata mucronatum. *Folliculus* unilocularis, ligneus, pseudo-bivalvis, loculo excentrico. *Semina* ala apicis nucleo longiore.—Frutices *rigidi, quandoque mediocres*, pilis *dum adsint medio affixis*. Folia *sparsa, in variis varia, nunc in eodem frutice diversiformia*. Fasciculi *v.* racemuli *sæpius axillares, in plerisque involucrati*, squamis *imbricatis, scariosis, caducis, rudimenta ramulorum aliquando simul includentibus, ideoque potius pro gemma habendis, sed genus, extra tropicum saltem, a confinibus optime distinguentibus, aliis notis in quibusdam vacillantibus*. Pedicelli *colorati, in racemosis geminati, paribus unibracteatis*. Flores *parvi, albi, v. ochroleuci*. Pistillum *glaberrimum*, stylo *subdeciduo*. Folliculus *parietibus incrassatis*. Semina *atra, raro cinerea*. *Br.*

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Hakea *myrtoides ;* ramulis apice puberulis, foliis sessilibus patulis oblongo-ovatis coriaceis pungenti-mucronatis uninerviis (siccitate venosis) marginatis sub lente pilosulis, fasciculis axillaribus sessilibus, pedicellis calyce glabro stylo longe superato brevioribus, stigmate terminali cylindraceo, "capsula parva ovata turgida ecalcarata læviuscula acumine brevissimo adscendente, seminis nucleo angusto alato-marginato, ala terminali brevissima." *Meisn.*

Hakea myrtoides. *Meisn. in Plant. Preiss. v.* 1. *p.* 577.

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A native of Swan River Settlement, and raised from seeds sent to this country by Mr. Drummond. It is extremely different from any previously-described species, but, perhaps, most allied to *Hakea ruscifolia*, La Billar. The bright-red flowers (so unusual in the genus), nestled among the foliage, have a very pretty effect. It blossoms in the Royal Gardens in February.

Descr. An adscendent or rather straggling *shrub*, a foot or a foot and a half in height, rigid, much branched; *branches* terete, younger ones puberulous. *Leaves* generally very patent and slightly tortuous so as to have a squarrose appearance, ovate-lanceolate, sessile, subcoriaceous, with very indistinct, close-pressed pubescence, plane, or the sides slightly recurved, the margins thickened and running out at the apex into a rather

long pungent mucro. *Flowers* in axillary, sessile fascicles, red, handsome. *Pedicels* purple, thickened upwards. *Sepals* linear, their apices spathulate, recurved, orange-yellow, bearing a yellow nearly sessile *anther* in the cavity. *Style* very long, bright red, bearing at the apex an erect, cylindrical, but rather acute *stigma*. *W. J. H.*

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Fig. 1. Leaf. 2. Flower unexpanded. 3. Flower:—*magnified*.




Fitch. del et lith

F. Reeve, imp.

# Tab. 4644.

# HAKEA Scoparia.

*Broom-like Hakea.*

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Nat. Ord. Proteaceæ.—Tetrandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4643.)

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Hakea *Scoparia;* ramulis puberulis, foliis elongato-filiformibus semiteretibus mucronato-acuminatis 5-sulcatis sulcis villosis costisque obtusis ima basi dilatata, floribus capitatis capitulis sessilibus involucratis, pedicellis florem æquantibus, perianthiis glabris, stylo elongato breviore, stigmate cylindraceo.

Hakea Scoparia. *Meisn. Plant. Preiss. v.* 1. *p.* 556 (*note*).

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This species of *Hakea* is a native of the Swan River Settlement, and has been sent in seed with corresponding dried specimens (numbered 600) by Mr. Drummond. Our no. 461 and 272 from the same collector, may be the same or varieties. It is evidently the plant described by Dr. Meisner in the 'Plantæ Preissianæ' above quoted, from specimens of Mr. Drummond in Mr. Shuttleworth's herbarium. The author, indeed, thinks it possible it may prove to be a variety of *H. sulcata*, but to us it appears unquestionably different, and the distinguishing characters are well pointed out by Dr. Meisner. He correctly observes, "*Folia* sæpius insecti cujusdam acu hinc inde tumefacta legumina quædam lomentacea imitantia."

Descr. A small *shrub*, with rather tortuous terete *branches*, clothed with pale grey *bark*, the younger ones puberulous. *Leaves* alternate, eight to ten inches long, about as thick as a blackbird's quill, elongated, filiform, rigid, semiterete, rather deeply five-furrowed throughout their whole length, the upper furrow the broadest, hairy in the furrows, the apex sharply mucronate, the base, where inserted upon the branch, a little swollen and dilated. *Flowers* pale yellow, arranged in sessile heads, which are axillary,

involucrate, involucre of several imbricated, brown, pubescent scales, shorter than the heads. *Pedicels* as long as the perianth. *Perianth* of four spathulate pale yellowish-white sepals, the apices concave, reflexed. *Style* very long, a little dilated at the apex, and there bearing a nearly cylindrical *stigma*. *W. J. H.*

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Fig. 1. Section of a leaf. 2. A pair of flowers from a capitulum :—*magnified*.




Fitch del et lith.

F Reeve imp.

# Tab. 4645.

# CŒLOGYNE Cumingii.

*Mr. Cuming's Cœlogyne.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4440.)

Cœlogyne *Cumingii;* pseudobulbis ovatis, foliis geminis lanceolatis 5-nerviis utrinque acuminatis racemo paucifloro longioribus, racemo 3–5-floro erecto longibracteato, bracteis convolutis, petalis lineari-lanceolatis patentibus, labelli trilobi lobis lateralibus rotundatis intermedio ovato acuto revoluto basi crispo, lamellis 3 crispis continuis.

Cœlogyne Cumingii. *Lindl. Bot. Reg.* 1840. *Misc.* 178. 1841. *tab.* 29.

Introduced by Mr. Cuming from Singapore. It first flowered in Mr. Loddiges' collection, and is easily cultivated, treated as other plants of this kind, as often detailed in these pages. Our drawing was made from plants which flowered in the Royal Gardens in September, 1849.

Descr. A creeping *caudex* produces several ovate, acuminate, slightly angled, and in an early stage scaly *pseudo-bulbs*, terminated by two lanceolate, obscurely striated, acuminated *leaves*, tapering below into more or less lengthened petioles. From between these the *scape* arises, bearing a *raceme* of from three to five moderately large flowers, not extending beyond the leaves. Each *flower* emerges from a large sheathing yellow-brown membranous scale, or *bractea*, which is eventually deciduous. *Sepals* and *petals* pure white, the former ovate-lanceolate, the latter linear-lanceolate, all spreading and acute or moderately acuminate. *Lip* broadly oblong, three-lobed, white or cream-coloured, stained with orange; the lower or lateral *lobes* involute; the terminal one ovate or rather obovate, obtuse, slightly waved and crisped, especially towards the base, and minutely denticulate. The disc of the lip is furnished with three elevated beautifully crisped lamellæ, extending from the

base beyond the middle of the terminal lobe; and with two smaller scale-like crests: all these have their ends tipped with orange. *Column* elongated, dilated, and winged above. *Anther* sunk into a cavity of the *clinandrium*. *Pollen-masses* two, cleft behind, sessile upon the caudicle.

Fig. 1. Lip. 2. Column and ovary. 3, 4. Front and back view of the pollen-masses:—*magnified*.



1



4.



2.



3



# Tab. 4646.

# PHRYNIUM SANGUINEUM.

## *Sanguineous Phrynium.*

Nat. Ord. Cannaceæ.—Monandria Monogynia.

*Gen. Char.* *Calyx* triphyllus. *Corollæ* sexpartitæ *laciniæ* exteriores subæquales, interiores laterales majores, inter se subinæquales; labellum minus, bilobum. *Filamentum* breve, in corollæ lacinia interiore laterali insertum; *anthera* terminalis. *Ovarium* inferum, triloculare. *Ovula* in loculis solitaria, basilaria, campylotropa. *Stylus* superne uncinatus; *stigmate* incurvo, subinfundibuliformi. *Capsula* trilocularis, loculicido-trivalvis. *Semina* in loculis solitaria, uncinata. *Albumen* corneum. *Embryo* rectus, excentricus, extremitate radiculari umbilicum attingente, lectuli embryonalis homotropi crure altero vacuo.—Herbæ *perennes, inter tropicos* Asiæ *et* Americæ *indigenæ;* radice *repente*, foliis *longe petiolatis*, caule *nullo v. apice monophyllo aut folioso*, inflorescentia *radicali v. terminali, spicato-capitata v. laxe capitata aut paniculata.*

Phrynium *sanguineum;* caulescens vel scapo radicali aphyllo, foliis oblongis brevi-acuminatis subtus purpureis, petiolis brevibus longe vaginantibus vaginis coloratis, racemo composito, bracteis bracteolisque ovato-lanceolatis complicatis floribusque coccineis.

Maranta sanguinea. *Hortul.*

From the collection of Mr. Jackson, of the Kingston Nursery, and a very handsome and desirable inmate of the stove it is. He received it from the Continent, under the name of *Maranta sanguinea;* but of what author, or where, if anywhere, it is published or described, I have not been able to ascertain. It is assuredly rather a *Phrynium* than a *Maranta*, and not very distantly removed from our *Phrynium capitatum*, figured in the 'Botanical Magazine.' That species, however, differs in the colour of the flowers and the leaves, in the inflorescence, and materially in the shape of the blossoms. The plant is handsome in its flowerless state, from the rich blood-colour of the long sheaths of the petioles, and the deep purple of the underside of the leaves; but the inflorescence adds greatly to the beauty, the

upper part of the long peduncle, the copious bracts, and the flowers and pedicels and rachis being alike of a rather bright red colour. It blossoms copiously in the winter and spring months.

Descr. Stemless or caulescent. *Leaves* ten inches to a foot long, oblong, acuminate, penninerved; *nerves* oblique, dark full green above, rich purple below, on short *petioles*, which are jointed upon the long base, of which the inside forms a projecting membranous sheath to the scapes. *Scape* elongated, a foot to a foot and a half long, erect, terete, red upwards, terminated by a compound *raceme*, or rather compact *panicle*, of bracteated *flowers*. *Bracteas* all red, primary ones (at the base of the main ramifications) large, ovate, acute, conduplicate; lesser ones, or *bracteoles*, of the same form and colour. *Rachis* short, and *pedicels* articulated, red. *Flowers* red. *Ovary* small, turbinate, longitudinally furrowed. The outer *sepals* broad, ovate, obtuse, nearly equal, free to the base, erect. Inner *sepals* erect, very unequal, one of them deeply two-lobed, combined for a good part of their length from below among themselves, and with the broad and flat petaloid *filament* and *style*. *Anther* solitary, lateral. *Style* curved. *Stigma* grooved.

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Fig. 1. Flower. 2. The same with the outer sepals removed. 3. Labellum partially enfolding the stamen and style. 4. One of the inner sepals, with stamen and style:—*magnified.*



# Tab. 4647.

## NYMPHÆA GIGANTEA.

*Gigantic Water-Lily.*

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Nat. Ord. Nymphæaceæ.—Polyandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4257.)

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Nymphæa *gigantea;* foliis peltatis cordato-rotundatis basi fere ad petioli insertionem fissis crassis remote dentatis supra (siccitate) minutissime elevato-punctatis subtus rugulosis grosse elevato-reticulatis ut videtur coloratis, floris amplissimi calyce tetraphyllo, petalis (cæruleis) numerosissimis striato-venosis obtusis exterioribus obovato-oblongis interioribus lineari-lanceolatis, staminibus numerosissimis stigma totum tegentibus, filamentis brevibus omnibus filiformibus, antheris curvatis exterioribus apiculatis.

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During the early part of the present year (1852) seeds of an Australian Nymphæaceous plant were in the hands of several cultivators in this country as a new *Victoria*, *Victoria Fitzroyana*, with flowers of a "purplish-blue," from what source obtained I have not been able to ascertain. Those which were obligingly presented to us by Mr. Carter and Mr. Stokes under that name were, we think, not the seeds of a *Victoria*, but of a *Nymphæa*, and were so crushed in a letter, and sent dry, that we have no hope of their germinating. Now it does happen that we received during the past year specimens of a magnificent new *Nymphæa* from our friend Mr. Bidwill, gathered in the Wide-Bay district, North-eastern Australia, some of whose flowers certainly vie with the ordinary ones of *Victoria regia*, being a foot in diameter, and if not of a purplish-blue colour, yet blue,—the blue, as it would appear, of the well-known *Nymphæa cærulea*. We are much disposed to think that this is the plant producing the seeds in question, and that the plant having been known to other colonists in Australia, the seeds have been by them sent to their friends in this country, under the name of *Victoria Fitzroyana*. Mr. Bidwill is too good a botanist to have done so. Be that as it may, we deem it a matter of duty now to lay a figure and description

of our magnificent plant before the public, and even a *coloured* figure; for so beautifully are the specimens dried by our valued friend and correspondent, that we think we cannot err much on that point. And sure we are that, even should all the seeds above alluded to fail to germinate, or prove to be those of another plant, our *Nymphæa gigantea* will ere long find its way into our tropical tanks, and adorn them with a Water-Lily little inferior to the royal *Victoria* in the size or beauty of its flowers, and with leaves equally remarkable in size, for a true *Nymphæa*, being eighteen inches to two feet across.

Descr. A *tuber* which we have lately received from Mr. Bidwill for cultivation, but unfortunately dry and dead, is about the size of an ordinary apricot, and nearly as globose, having numerous depressions or eyes, like the "eyes" of the potato, with a scale at each depression. The leaves of our dried specimens are eighteen inches across, nearly orbicular, but longer than broad, with a deep fissure at the base, the margin remotely toothed, the substance very thick, and when dry coriaceous; the upper surface green, rather obscurely reticulated, the whole surface appearing minutely dotted with raised points: beneath purplish; the principal veins, very thick and prominent, radiate from the insertion of the petiole, and form elevated irregular hexagonal reticulations all over the under surface, which surface is everywhere minutely wrinkled. *Petiole* nearly an inch across, terete, full of air-cells (as shown at fig. 1); its attachment to the leaf is within, or at a distance from, the base of the fissure, and thus constitutes a peltate leaf. *Flower* twelve inches in diameter (in a dried state). *Calyx* of four leaves, or sepals, as long as the petals, broadly ovate-oblong, obtuse, green or purplish-green; one has the two margins and another one margin petaloid. *Petals* blue, very numerous, spreading, the outermost the largest (a few of them herbaceous at the back down the centre), obovate-oblong, that is, broadest above the middle, striated with veins, the inner ones rather shorter than the outer, linear-lanceolate, all of them obtuse. *Stamens* exceedingly numerous, more so than I have seen in any Nymphæaceous plant, forming a dense mass around and over the stigma; *filaments* filiform, short, incurved (none of them petaloid); *anthers* all perfect, linear, yellow, singularly curved, falcate; those in the centre obtuse; outer ones apiculate by a slight prolongation of the *connectivum*. *Stigma* so covered by the copious stamens that the structure cannot be seen without destroying the specimen.—Enough is here shown in proof that the species is very distinct from any of the hitherto known blue Water-Lilies, or of the genus.

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Fig. 1. Transverse section of the petiole. 2. Portion of the underside of the leaf at the insertion of the petiole:—*natural size.*

4648.




F. Reeve imp.

# Tab. 4648.

# RHODODENDRON CILIATUM; *β. roseo-album.*

*Fringed Rhododendron; rose-white variety.*

Nat. Ord. Ericaceæ.—Decandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4336.)

Rhododendron *ciliatum;* ramulis pedunculis pedicellisque piloso-hispidis, foliis elliptico-oblongis subcoriaceis acutis ferrugineo-pilosis ciliatis demum glabratis subtus lepidotis, pedunculis terminalibus umbellatis 2–6, calycis pilosissimi lobis amplis ovato-rotundatis subfoliaceis, corollæ campanulatæ tubo inferne angustato limbo amplo 5-lobo, filamentis (10) basi pilosis, stylo gracili, capsula brevi crassa calyce duplo longiore 5-loculari infra apicem contracta.

Rhododendron ciliatum. *Hook. fil. Rhod. of Sikkim-Himal. p.* 26. *t.* 24.

β. floribus majoribus, corollis albis roseo-tinctis. (Tab. Nostr. 4648.)

It is scarcely two years since the seeds of this *Rhododendron* were received from Dr. Hooker, and already (March 7, 1852) six plants of it have produced flowers while only seven inches high, and many others are showing blossoms. Their flowering has given us peculiar pleasure, as the first of the Sikkim-Himalayan Rhododendrons which have done so; and on another account. From more than one quarter hints have been thrown out that the author of the work above cited has used some freedom in going beyond nature in the size and colouring of the flowers. Such gratuitous statements, from very incompetent judges, are contradicted by the first species that has blossomed; for assuredly our cultivated *R. ciliatum* far excels in size of the corolla, and delicacy of tint, Dr. Hooker's original figure. Even were the reverse the case, it would be no proof of any inaccuracy in Dr. Hooker's figures, for no intelligent traveller in Sikkim can fail to observe how liable the flowers of all the species of Rhododendron are to vary in size and colour (nor are the leaves more constant): in the present instance the difference is so great, though there cannot be a question of the identity of

species, that we feel ourselves, as it were, compelled to make it a *variety*. The corollas are nearly, if not quite, double the size of the native plant as seen by Dr. Hooker, and instead of being of a uniform lilac-purple colour, they are of the most delicate white, tinged with red-rose colour. In all other respects the two plants perfectly agree. It is a native of wet rocky places (rarely in woods) of Sikkim-Himalaya, in the Lachen and Lachoong valleys; elevation 9–10,000 feet. It may be expected to be hardy therefore; and, indeed, we may observe, that young plants of nearly all our species from Sikkim-Himalaya have passed this winter in the open air, simply surrounded by a bank of earth a foot and a half high. *R. Dalhousiæ* alone has failed in such a situation, and in many cases we know that it has equally failed under glass. *R. ciliatum* has been kept in a cool greenhouse, and has certainly the merit of being a ready flowerer, and that at a very early age.

Descr. Even in its native country this species does not seem to attain a height of more than two feet, growing in clumps, and yielding a faintly resinous and agreeable odour. The whole *plant*, but especially the younger *shoots*, are more or less pilose with long ferruginous hairs. The *leaves*, two to three inches long, eventually become glabrous on the upper surface; beneath they are clothed with minute ferruginous scales. *Flowers* terminal, arising from a scaly imbricated bud. *Peduncles* rather stout, very villous. *Calyx* large, almost foliaceous, cut nearly to the base into five almost rounded, spreading, obtuse *lobes*, villous on the outside. *Corolla* campanulate, but with the tube subinfundibuliform; very large in proportion to the leaves, in its native country usually of a uniform lilac-purple: with us of the most delicate white, tinged with as delicate a rose-colour, especially at the back of each lobe. *Stamens* included; *filaments* hairy at the base; *anthers* rather small, purple. *Ovary* oblong, contracted at the apex. *Style* declined, longer than the stamens. *Stigma* five-lobed, peltate.

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Fig. 1. Stamen. 2. Calyx and pistil. 3. Section of ovary:—*magnified*. 4. Fruit:—*natural size*.



F Reeve, imp

# Tab. 4649.

# JASMINUM NUDIFLORUM.

## *Naked-flowering Jasmine.*

Nat. Ord. Jasmineæ.—Diandria Monogynia.

*Gen. Char.* Flores: *Calyx* campanulatus, 5–8-lobus, dentibus nunc brevibus nunc subulatis. *Corolla* hypocraterimorpha; *tubo* tereti; *limbo* plano, 5–8-partito; lobis obliquis, per æstivationem contortis. *Stamina* 2, tubo adnata, inclusa. *Ovarium* bilobum. *Stylus* simplex, apice bilobus. *Bacca* didyma, loculis 1-spermis (in *J. dispermo* solum dispermis). *Semina* erecta, exalbuminosa.—Frutices *plerique gerontogei, dumosi aut scandentes.* Folia *opposita, rarius alterna, omnia composita*, petiolo *nunc medio articulato et foliolum unicum gerente, nunc* foliola *plura numero imparia* 3–7 *gerentia et tunc ideo folium trifoliatum aut imparipinnatum.* Paniculæ *pauci- aut multifloræ.* Corollæ *flavæ aut albæ, sæpe extus rubentes.*

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Jasminum *nudiflorum;* ramis angulatis vimineis, foliis hysterantheis trifoliolatis glabris (ciliatis), foliolis ovatis acutis, floribus (luteis) solitariis basi squamatis, calycis laciniis linearibus herbaceis, corollæ limbo 6-lobo obtusissimo. *Lindl.*

Jasminum nudiflorum. *Lindl. in Journ. of Hort. Soc. v.* 1. *p.* 153. *Bot. Reg.* 1846. *t.* 48.

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One of the many interesting discoveries in China of Mr. Fortune on his first visit to that country, though not then a new discovery; for, according to Dr. Lindley, it had been distributed in a dried state from the Imperial Russian Chinese Herbarium under the erroneous name of *J. angulare*, a species of the Cape of Good Hope, with white flowers growing on the peduncles in threes.

When first described by Dr. Lindley, in the valuable journal of the Horticultural Society of London, it was considered a valuable greenhouse plant, a winter bloomer, and continuing in flower for a length of time. But in the 'Botanical Register' the further information was given that it was likely to prove hardy; for "this species," writes Mr. Fortune, "was first discovered in gardens and nurseries in the north of China, particularly about Shanghae, Loo-chou, and Nanking. It is a very ornamental dwarf shrub, and I have no doubt of its being perfectly hardy in

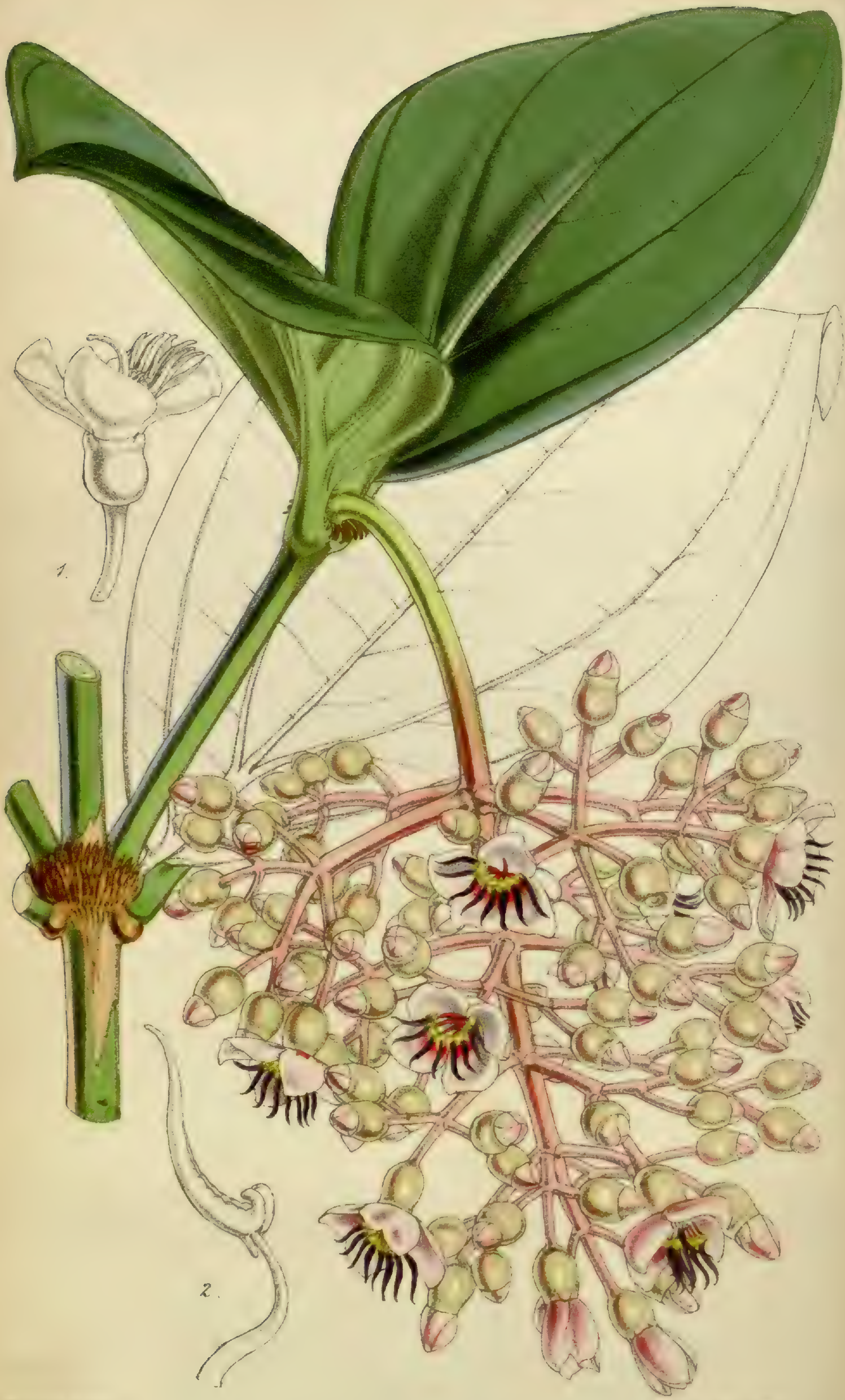
this country (England). It is deciduous; the leaves falling off in its native country early in autumn, and leaving a number of large prominent flower-buds, which expand in early spring, often when the snow is on the ground, and look like little primroses."

Nothing can be more accurate than this statement. The shrub proves perfectly hardy; it flowers in the middle of winter (our drawing was made from a plant on the open wall in December, 1851), and the fallen blossoms on the frosty and snowy ground look like primroses. It is to be regretted that the foliage, scanty at best, does not appear at the same time with the leaves. Our specimen, not fully developed, was drawn in April. The plant is, like other Jasmines, easily propagated by layers or cuttings.

Descr. A twiggy *shrub*, from four to eight feet high, with long, opposite, dark-green *branches*, exactly quadrangular, the angles somewhat winged. *Leaves* opposite, petiolate, trifoliolate. *Petiole* rather shorter than the leaves. *Leaflets* ovate, the middle somewhat obovate, acute, glabrous, ciliated. *Flowers* lateral, opposite, solitary, arising from scaly buds, on short rather thick *petioles*. *Scales* ovate-acuminate, tinged with brown. *Calyx* with a short *tube*, the *limb* cut into six, spreading, linear, acute segments. *Corolla* full yellow, hypocrateriform; the *tube* slightly widened upwards; *limb* spreading horizontally, of five, obovate or obcordate, slightly-waved segments. *Stamens* two, inserted above the middle of the tube of the corolla, and quite included. *Filaments* very short. *Anthers* oblong-sagittate. *Ovary* globose. *Style* longer than the tube of corolla, a little thickened upwards. *Stigma* globose, emarginate.

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Fig. 1. Peduncle, calyx, and pistil. 2. Tube of the corolla laid open:—*magnified.*



1.

2.

# Tab. 4650.

# MEDINILLA Sieboldiana.

*Siebold's Medinilla.*

Nat. Ord. Melastomaceæ.—Octandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4533.)

Medinilla *Sieboldiana;* glaberrima, ramis teretibus ad nodos stuposo-barbatis, foliis oppositis breviter petiolatis (petiolis crassis) elliptico-ovatis coriaceis basi acutis apice brevissime acuminatis quinquenerviis supra saturate viridibus subtus pallidis, paniculis thyrsoideis terminalibus pedunculatis nutantibus, floribus tetrameris, calycis tubo globoso, limbo brevissimo eroso, antheris basi bilobis dorso inferne calcaratis.

Medinilla Sieboldtiana. "*Planch. in Van Houtte, Fl. des Serres, v.* 5. *t.* 482." *Walp. Ann. Bot. v.* 2. *p.* 604.

A native, it is said, of the Moluccas, whence it appears to have been introduced to the Belgian gardens by M. Van Houtte, and through that channel to our stoves in England. It forms a handsome shrub, with large dark green leaves, and drooping racemes of waxy rose-coloured flowers, having dark purple anthers. Our increased intercourse with the Malay Archipelago has been the means of adding considerably to our knowledge of the species of this fine genus. Twenty-four species are enumerated in Walpers' 'Repertorium,' and eleven additional ones are given in the 'Annales' of the same author—thirty-five in all. Most of them are described in Blume's Mus. Bot. Lugd. Bat., a work of great value to the student of the botany of the Dutch possessions in the Malay Islands. For the mode of cultivation, see under our Tab. 4569. With us this species flowers in the spring, and continues long in blossom.

Descr. Our *plant* is between three and four feet high, shrubby, with the *stem* and opposite *branches* quite terete; the branchlets only are here and there seen to have an indistinct angle. At the nodes of the stem and branches, between the

petioles of the leaves, is a dense tuft of soft spicules of a dirty brown colour. *Leaves* (on short thick *petioles*) four to five or six inches long, coriaceous, glabrous, between ovate and elliptical, quite entire, acute at the base, shortly and suddenly acuminate at the apex, strongly five-nerved; *nerves* very prominent beneath, where the colour is pale green, while it is dark green above. *Peduncle* terete, as long as the finger, and, together with the thyrsoid *panicle* of flowers, drooping. *Pedicels* about as long as the calyx, which latter has the tube nearly globose, fleshy, pale rose; the very short margin or limb erect and erose. *Petals* four, spreading, broad-ovate, acute, rose-coloured. *Stamens* eight, pointing and spreading to one side: *filaments* subulate, white, curved: *anthers* also subulate, deep purple, wrinkled on the upper side: at the base above formed into two incurved lobes, below furnished with a straight spur. *Ovary* combined with the calyx: *style* curved, subulate: *stigma* obtuse.

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Fig. 1. Flower, 2. Stamen:—*maynified*.



# Tab. 4651.

# GUICHENOTIA macrantha.

*Large-flowered Guichenotia.*

Nat. Ord. Lasiopetaleæ.—Pentandria Monogynia.

*Gen. Char. Inflorescentia* axillaris, racemosa. *Bracteola* hypocalycina persistens, 3-partita. *Calyx* petaloideus, persistens, campanulatus, quinquepartitus; laciniis æstivatione valvatis, dorso demum tricostatis. *Corollæ petala* 5, hypogyna, calycis laciniis alterna, minima, squamæformia. *Stamina* 5, hypogyna, petalis opposita; *filamenta* subulata; *antheræ* extrorsæ, biloculares, lineari-lanceolatæ, dorso insertæ, loculis latere utrinque rima longitudinali dehiscentibus. *Ovarium* sessile, quinqueloculare, loculis intus densissime tomentosis. *Ovula* in loculis 5, angulo centrali subbiseriatim inserta, adscendentia. *Stylus* filiformis, brevis; *stigma* simplex. *Fructus* . . . .—Frutex *canescens, in* Nova Hollandia occidentali *indigenus;* foliis *brevissime petiolatis, ternato-verticillatis, lineari-lanceolatis, penninerviis, integerrimis, margine revolutis, supra pubescentibus, subtus dense griseo-tomentosis*, stipulis *nullis. Endl.*

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Guichenotia *macrantha;* pedunculis elongatis 2–3-floris, bracteis 2–3 linearibus alternis a flore remotiusculis, capsulis intus glabriusculis. *Turczan.*

Guichenotia macrantha. *Turczan. Act. Soc. Moscov. v.* 19. *No.* 1. *p.* 500. *Steetz in Lehm. Plant. Preiss. v.* 2. *p.* 362.

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A singular-looking, rather than beautiful, hoary shrub, with large purplish flowers, at first sight not unlike those of some *Solanum;* native of Swan River, whence seeds have been sent by Mr. Drummond to Kew, and reared in 1847. Our first flowers appeared in March, 1852, in an ordinary greenhouse. The genus *Guichenotia*, so named by M. Gay in compliment to the gardener of M. Baudin's expedition, M. Antoine Guichenot, was founded upon the *G. ledifolia*, equally with this an inhabitant of the Swan River district, and is described by Mr. Turczaninow from Mr. Drummond's dried specimens. It is an extremely distinct species.

Descr. The *shrub* is with us two and a half feet high, erect, branched. *Branches* terete, clothed with stellated down. *Leaves* downy, whorled in threes, linear-oblong, on very short *petioles*,

entire, penninerved, the nerves almost at right angles from the costa, transverse, slightly branched; the margin revolute. *Peduncles* axillary, generally longer than the leaf, erect, few-flowered; *flowers* one to three, drooping. *Pedicels* naked, or bearing one to two lanceolate, distinct *bracts*: the *hypocalycinal bract* tripartite, appressed, leafy, veined. *Calyx* between rotate and campanulate, dull and pale purple, downy, veined, the five lobes acuminate. *Petals* five, small, squamiform, dark purple, one at the base of each stamen. *Stamens* converging into a cone against the pistil: *filaments* subulate: *anthers* dark purple. *Germen* ovate, acuminate, downy. *Style* articulated upon the ovary, about equal to it in length, slender, subulate. *Stigma* obtuse.

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Fig. 1. Flower with the calyx removed. 2. Stamen and petal. 3. Pistil:—*magnified.*


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2.
3.
4.
5

# Tab. 4652.

# BRACHYSEMA LANCEOLATUM.

## *Lance-leaved Brachysema.*

Nat. Ord. Leguminosæ.—Decandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4481.)

Brachysema *lanceolatum;* foliis oppositis (rarissime alternis) ovatis ovato-lanceolatis lanceolatisve mucronatis integerrimis supra siccitate minute reticulatis subtus ramisque argenteo-sericeis, petiolis brevissimis, stipulis minutis subulatis coloratis, racemis subcompositis axillaribus folio brevioribus, calyce sericeo, alis vexilloque carina dimidio brevioribus.

Brachysema lanceolatum. *Meisn. in Lehm. Plant. Preiss. v.* 1. *p.* 24. *v.* 2. *p.* 206. *Walp. Repert. Bot. v.* 5. *p.* 422.

Our last representation of a *Brachysema* from Swan River (Tab. 4481) was of a very handsome species, and a very singular one, destitute of foliage. Our present is also a handsome one, and its beauty is enhanced by the good-sized almost polished leaves, dark green above, beautifully silky beneath. It is, equally with the former kind, a native of Swan River, and was raised from seeds sent home by Mr. Drummond, in the Exeter Nursery of Messrs. Lucombe, Pince, and Co., where it flowered for the first time in February, 1852. It is one great charm of the Australian plants that they so generally flower when there is little else to enliven the conservatory, and this cannot fail, on that account, to be very acceptable to cultivators. Dr. Meisner had evidently very imperfect specimens to describe from, for he was ignorant of the colour of the corolla, which in the living and in the dried specimens of Mr. Drummond is of the richest scarlet; and he describes the flowers as solitary. Yet he has contrived to form three varieties. The leaves are certainly variable in form, even on the same individual branch.

Descr. A handsome though somewhat straggling *shrub*, with terete, silky *branches*, and usually opposite *leaves*, from two and

a half to three inches long, shortly petiolate, varying from ovate to lanceolate, rarely obtuse, usually acute and mucronate, quite entire, penninerved, the upper surface dark green, and when dry beautifully and minutely reticulated. *Petioles* at most two lines long, with a subulate, coloured *stipule* on each side, eventually probably deciduous. *Flowers* four to six, on a sessile subcompound *raceme* in the axils of the leaves, and shorter than the leaves. *Bracteas* ovate, acute, silky. *Pedicels* short. *Calyx* large, ovate, five-lobed; lobes acuminate, erect. *Corolla*, all at least that is distinctly visible, rich scarlet; for the *alæ* and *vexillum* are scarcely protruded beyond the calyx, while the carina is twice the length of the latter. The small vexillum is cordate, attenuated, yet obtuse, white at the margin, red in the disc, with a large yellow spot in the centre. *Stamens* ten, free. *Ovary* oblong, silky. *Style* subulate-filiform. *Stigma* obtuse.

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Fig. 1. Vexillum. 2. One of the alæ. 3. Carina. 4. Stamens. 5. Pistil:—*magnified.*







F. Reeve, imp.

# Tab. 4653.

# ACACIA Cycnorum.

## *Swan River Acacia.*

Nat. Ord. Leguminosæ.—Polygamia Polyandria.

*Gen. Char.* (*Vide supra*, Tab. 4306.)

Acacia (Pulchellæ) *Cycnorum;* ramulis hirsutis, spinis axillaribus subulatis sæpe deficientibus, pinnis unijugis, petiolo brevissimo submutico, glandula obsoleta, foliolis 3–7-jugis linearibus margine revolutis subciliatis, capitulis globosis. *Benth.*

Acacia Cycnorum. *Benth. in Hook. Lond. Journ. Bot. v.* 1. *p.* 388. *Meisn. in Lehm. Plant. Preiss. v.* 1. *p.* 22. *Walp. Repert. Bot. v.* 1. *p.* 908.

Of the genus *Acacia*, reduced as it is by the removal of numerous species to other genera, Mr. Bentham has, in his valuable Memoir on *Mimoseæ*, enumerated no less than 340 species in the first volume of the 'London Journal of Botany,' published in 1842; and many have since been added. These he has, with much skill and judgment, divided into six series, and those into sections. Of these, the first three series, containing 228 species, belong to Australia, and of them 204 are phyllodineous species, that is, they have the leaves reduced to leaf-like petioles. The third series of the genus, "*Pulchellæ*," is characterized by being "unarmed, or furnished with axillary spines; the leaves bipinnate; the inflorescence capitate or spicate and simple; the capitula or spikes axillary, arising from a bracteated bud or gemma." Here eleven species are enumerated, including the present one. *A. Cycnorum*, as its name implies, is an inhabitant of the Swan River settlement, where it appears to be common; and Meisner gives two varieties: but Mr. Bentham is rather inclined to think that this ought to be considered, along with *A. lasiocarpa* and *A. hispidissima*, among the varieties of *A. pulchella* of Mr. Brown. Be that as it may, it is a very handsome plant, and deserves a place in every green-

house or conservatory where early flowers are required. Our flowering specimen was sent in April, 1852, by Messrs. Lucombe, Pince, and Co. (Exeter Nursery), who raised it from Mr. Drummond's seeds.

Descr. *Shrub* two to three feet high, with rather slender and scattered terete green branches, clothed with somewhat dense spreading hairs. *Spines* none in our specimens. *Leaves* alternate, bipinnate. *Petiole* very short, without gland (in what we have examined). *Rachis* hairy. *Pinnæ* two pairs; the lower pair each with three, the upper with four, pairs of small oblong *leaflets*, when dry revolute at the margin. *Peduncle* rather longer than the leaves, axillary, slender, arising from a scaly *gemma*. *Head* of flowers globose, rather deep yellow. *Flowers* crowded. *Calyx* turbinate, five-lobed, with spreading hairs in the upper half; the lobes short, very obtuse. *Corolla* four-lobed; *lobes* concave, ovate, erect. *Stamens* numerous. *Style* rather longer than the stamens.

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Fig. 1. Portion of a stem, with leaf and capitulum. 2. Flower:—*magnified*.


3.
2.

# Tab. 4654.

# TRICHOPILIA suavis.

## *Sweet Trichopilia.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char. Sepala* et *petala* æqualia, patentia, angusta. *Labellum* magnum, convolutum, cum columna parallelum, 3-lobum, lobo intermedio subbilobo planiusculo, intus nudum. *Columna* teres, clavata. *Clinandrium* cucullatum, 3-lobum, villoso-fimbriatum. *Anthera* 1-locularis, compressa, antice convexa. *Pollinia* 2, postice sulcata, caudiculæ tenui cuneatæ adherentia: *glandula* minima.—Pseudobulbi *carnosi, vaginis maculatis supertecti, monophylli, coriacei.* Flores *solitarii, axillares. Lindl.*

Trichopilia *suavis;* pseudobulbis rotundatis tenuibus foliaceis monophyllis, foliis lato-oblongis coriaceis subsessilibus, pedunculis nutantibus multifloris, sepalis petalisque lineari-lanceolatis undulatis rectiusculis, labello maximo lobis undulatis crenato-dentatis, clinandrii cucullo lobato lobis tenuissime fimbriatis.

Trichopilia suavis. *Lindl. et Paxt. Fl. Gard. v.* 1. *p.* 44. *n.* 70.

Native of Central America, like the other two known species of the genus, from which this is extremely distinct, having very different pseudo-bulbs and leaves, and longer flowers, with the sepals and petals only slightly twisted. It is powerfully fragrant. The very fine specimen here figured was sent to us by Messrs. Lucombe, Pince, and Co., in April of the present year, 1852.

Descr. *Pseudo-bulbs* extremely compressed, almost foliaceous, orbicular, aggregated, bearing a solitary, broad, elliptical, coriaceous *leaf*, contracted at the base into a short, laterally compressed *petiole.* From the base of a pseudo-bulb the *peduncle* emerges, and is pendent, bearing three or more large and highly fragrant *flowers*, bracteated at the insertion of each flower; *bracteas* ovate, thin, membranaceous, white, streaked with brown. *Ovary* long, clavate, angled, pale green. *Sepals* and *petals* spreading, white or cream-coloured, lanceolate, acuminate, nearly straight or only slightly twisted. *Lip* very large, projecting forward, white or cream-coloured in its ground-colour;

the lower half or claw is convolute upon the column, but enlarged suddenly upwards so as to constitute a funnel-shaped petal, with a very large oblique limb; this *limb* is three-lobed, spotted with pale purple, yellow in the throat, the lateral lobes waved and crenated, the middle lobe very large, slightly deflexed, emarginate or retuse at the apex, the margin crisped and crenulate. *Column* very long, terete, expanding at the apex in front into a large convex fleshy *stigma*, and bearing at the back of the anther a four-lobed hood, each lobe beautifully fringed with long cilia. *Anther-case* helmet-shaped, acuminated. *Pollen-masses* on a narrow cuneated *caudicle*, with a small *gland* at the base.

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Fig. 1. Column, with portion of the corolla and of the ovary. 2. Anther-case. 3. Pollen-masses :—*magnified.*



1.

2.

Reeve, imp

# Tab. 4655.

# PODOCARPUS neriifolia.

## *Oleander-leaved Podocarpus.*

Nat. Ord. Taxineæ.—Diœcia Polyandria.

*Gen. Char. Flores* dioici, v. rarius monoici. *Amenta mascula* cylindrica; stipitibus antherarum lobos polliniferos duos marginales extrorsum dehiscentes gerentibus. *Flores fœminei* subsolitarii (in spica abbreviata), v. rarius laxe spicati; *squamula fructifera* testæ seminis inversi omnino adnata. *Fructus* drupaceus, subglobosus.—Arbores *v.* arbusculæ *plerumque proceræ, lignum durum et utilem præbentes.* Folia *vel sparsa, linearia, nervo medio donata; vel quinquefariam imbricata aut distiche patentia enervia; vel opposita, ovata, nervo medio destituta.* Testa *integra membranam internam seminis ad maturitatem usque tegens. Br.*

Podocarpus *neriifolia;* foliis sparsis lanceolatis acutis uninerviis coriaceis margine paulum revolutis, amentis staminigeris elongatis axillaribus solitariis basi involucrato-bracteatis, pedunculis fœmineis axillaribus subunifloris longitudine receptaculi oblongi superne oblique lobati basi bractea subulata uncinata suffulti.

Podocarpus nereifolia. *Don in Lamb. Pin. ed.* 1. *v.* 2. *p.* 21. *Brown in Horsf. Jav. p.* 40. *Endl. Conif. p.* 215.

Podocarpus macrophylla. *Wall. Cat. n.* 6052 *A.*

With us this forms a good-sized greenhouse shrub or small tree, with very copious dense evergeen foliage, and in a state of fruit really handsome from the copious purple-red fleshy receptacles of the seed, which are produced in the winter months. The species is a native of Nepal, and was many years ago introduced to the Royal Gardens by Dr. Wallich. It appears to be a mountain plant, and it is not impossible but it may prove hardy enough to bear the open air, against a wall. It is with us treated like the Australian and New Zealand plants. The female flowers appear very apt to coalesce, and the receptacles then to bear two berries; and even when there is one, the receptacle seems to be often unnaturally enlarged, and to be much deformed. The male amenta are described from Dr. Wallich's

dried specimens in our herbarium. The female fructification is produced in the winter months, and attains the appearance and size of the fruits represented in our figure. The fleshy receptacles are said to be eaten by the Nepalese.

Descr. Our plants are from six to seven feet high, much branched, the branches copiously furrowed from the decurrent petioles. *Leaves* scattered, approximate, sometimes appearing verticillate in whorls of three to five, narrow, lanceolate, acute, coriaceous, the margins slightly revolute, dark green above, pale and slightly glaucous beneath, below tapering into a very short decurrent petiole. *Male amenta* axillary, sessile, solitary, cylindrical, slender, an inch or more long, arising from a cup-shaped scaly involucre. *Anthers* numerous, imbricated, two-celled, much acuminated, at length reflexed. *Peduncle* of the *female* solitary, axillary, single-flowered, about half an inch long. *Receptacle* of the fruit oblong, fleshy, soon enlarging, especially in breadth, with an oblong depression at the top, and variously lobed on each side, from pale yellow-green becoming orange-red, at length deep purple, slightly glaucous, bearing a small subulate recurved bractea at the base. At the apex it bears an obovate glaucous-green seed. Sometimes two or more receptacles grow from the same peduncle, and such a one we have seen to be proliferous at the extremity.

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Fig. 1. Peduncle, with female fructification. 2. Peduncle, bearing a double receptacle and two seeds :—*magnified.*



Fitch del et lith.

# Tab. 4656.

# BERBERIS Wallichiana.

## *Dr. Wallich's Berberry.*

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Nat. Ord. Berberideæ.—Hexandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4308.)

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Berberis *Wallichiana;* ramis angulatis, spinis tripartitis elongato-subulatis, foliis fasciculatis oblongo-lanceolatis rigidis glabris spinuloso-serratis, pedicellis axillaribus aggregatis unifloris folio brevioribus.

Berberis Wallichiana. *De Cand. Prodr. v.* 1. *p.* 107. *Wall. Plant. Asiat. Rar. v.* 3. *p.* 23. *t.* 243. *Spreng. Syst. Veget. v.* 2. *p.* 120. *et cur. post. p.* 138. *Walp. Repert. Bot. v.* 1. *t.* 104. *Lindl. et Paxt. Fl. Gard. v.* 1. *p.* 12. *et p.* 79. *fig.* 58.

Berberis atro-virens. *Don, Gard. Dict. v.* 1. *p.* 117.

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Originally detected near the summit of the mountain Sheopur, Nepal, by Dr. Wallich, after whom the species is appropriately named by M. De Candolle. By Mr. Veitch it has been introduced to our Gardens, through his zealous collector, Mr. Thomas Lobb, and, about the same time, by Dr. Hooker from Eastern Himalaya. It is a most ready flowerer, producing blossoms in April, when not more than eight or ten inches high, in small pots; but in its native country the plant attains a height of from six to eight or ten feet. As far as our experience goes, and that of Messrs. Veitch, this species may be expected to prove hardy, and thus add another interesting flowering shrub to our arboreta. The foliage a good deal resembles that of the Fuegian *Berb. ilicifolia*, figured at our Tab. 4308; but the inflorescence is very different.

Descr. An upright-growing *shrub*, in its native country attaining a height from six to ten feet. *Branches* long and spiny. *Spines* three-quarters of an inch to an inch long, deeply tripartite; segments equal in length, slender but rigid, subulate.

*Leaves* in alternate fascicles, evergreen, two to three inches long, nearly sessile, spreading or recurved, lanceolate, sinuato-serrate, penninerved, the serratures and apex tipped with harsh spiny points. From the centre of the fascicle of leaves spring the aggregated *peduncles* of drooping flowers, six to eight or more in a cluster. *Pedicels* slender, simple, bracteated at the base, bearing a single, rather large, bright but palish, yellow *flower*. *Calyx* of many, nine to twelve or more, spreading, rounded, concave *sepals*, the three outer slightly tinged with red. *Petals* six, erect, rounded, concave, resembling the inner sepals, but smaller, and a little retuse at the apex, obscurely veined. *Stamens* six, their structure as in the genus. *Filaments* simple, held back in the hollow of the petal, for a time, by two oblong *glands*, which are an enlargement of the base of two of the veins of the petal. *Ovary* oblong-cylindrical. *Stigma* nearly sessile, large, flat, but umbilicated in the centre.

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Fig. 1. Flower. 2. Petal and stamen. 3. Pistil :—*magnified*.

Fitch, del et lith

F Reeve, imp

# Tab. 4657.

# RHODODENDRON LEPIDOTUM.

*Scaly Rhododendron.*

Nat. Ord. Ericeæ.—Decandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4336.)

Rhododendron *lepidotum;* fruticulus ramosus, totus lepidotus, squamulis albidis ferrugineisve, foliis obovatis lanceolatis oblongisve apiculatis breve petiolatis pallide viridibus, pedunculis terminalibus solitariis 2–3-nisve erectis, sepalis 5 foliaceis obtusis, corollæ flavidæ v. purpureæ tubo brevi inflato lobis patentibus late ovatis, staminibus 8 filamentis ciliatis, ovario 5-loculari, stigmate brevi decurvo. *Hook. fil. in Journ. Hort. Soc. Lond. v.* 7. *pp.* 80, 104.

Rhododendron lepidotum. *Wall. Cat. n.* 758. *Don, Gard. Dict. v.* 3. *p.* 845. *De Cand. Prodr. v.* 7. *p.* 724. *Royle, Ill. p.* 260. *t.* 64. *f.* 1. *Hook. fil. in Sikkim Rhod. Conspect. p.* 6.

Rhododendron elæagnoides *et* R. salignum. *Hook. fil. Sikkim Rhod. t.* 23, *right hand fig.* 1, 2, *and left hand fig.* 1.

Rhododendron obovatum. *Hook. fil. Sikkim Rhod. Conspect. Spec. p.* 6.

The purple-flowered state of this very variable species of *Rhododendron* blossomed freely in April, 1852, in a cool greenhouse of the Royal Gardens. The seeds were sent from Sikkim-Himalaya by Dr. Hooker, under the name of *R. elæagnoides*, and as such this is figured in the work on the Rhododendrons, with dark purple flowers, and also with deep yellow flowers, looking like those of some *Helianthemum*. In that work, however, the author alludes to its close affinity, as well as that of *R. salignum*, with the *R. lepidotum* of Wallich (only known to us from dried specimens); and a further examination has satisfied him that they and his *R. obovatum* can in no way be specifically distinguished from authentic specimens of *lepidotum*. He has therefore, in the 'Journal of the Horticultural Society of London,' united them.

"The species abounds," Dr. Hooker says, "at an elevation of

Eastern Himalaya of from 14,000 to 15,000 feet; but may be found as low down as 8000 feet, in moist valleys, forming a stout tortuous stock: the *branches*, as thick as a crow's quill, rather scattered, bearing tufts of branchlets at the top. It is a slender or stout twiggy *shrub*, one to four feet high, branching, often growing in widely extended clumps, as heather does with us, but never so extensively; and it emits in sunshine a powerful resinous odour. *Leaves* of a pale glaucous green, lighter underneath, and sometimes ferruginous where the scales abound, one-half to one and a half inch long. *Flower-stalks* more or less elongated, one and a half to two inches long, slender. *Corolla* yellow or dirty purple, half an inch across the lobes, scaly, especially on the outside of the tube; the upper lobes are spotted with green.—The odour of this plant is strongly resinous, and rather sweetish and pleasant. Its common native name is *Tsaluma*, or *Tsuma*, amongst the Bhoteas." *Hook. fil.*

4658.



# Tab. 4658.

# COSCINIUM FENESTRATUM.

*False Calumba-root.*

Nat. Ord. Menispermaceæ.—Diœcia Hexandria.

*Gen. Char.* Coscinium, *Colebr.* (char. reform.) *Flores* dioici. Masc. *Sepala* 9–12, circa receptaculum cylindraceum ternatim imbricata, subæqualia, vel 3–6 *ext.* interdum paulo minora, omnia ovata, valde carnosa, extus tomentoso-pilosa, *int.* demum rotato-expansa. *Petala* nulla. *Stamina* 6, biserialia; *filamenta* carnosa, 3 *ext.* libera apice reflexa, 3 *int.* in summo receptaculi imo coalita, erecta; *antheræ* seriei *ext.* 1-lobæ, introrsæ, *int.* 2-lobæ, lobis sejunctis utrinque lateralibus, omnibus ovatis apice filamenti semi-immersis, 2-loculatis, 2-valvatis, valvis in septo rima verticali hiantibus. Fœm. *Stamina* sterilia 6, hypogyna. *Ovaria* 3, valde sericea. *Stylus* tenuis. *Stigma* recurvum. *Drupæ* 3, vel abortu pauciores, globosæ, carnosæ, tomentosæ, monopyrenæ. *Nux* ossea, crassa, ovata, dorso convexior, sutura peripherica vix conspicue 2-valvaris, ventre condylo* interno magno globoso foraminibus 2 prope hilum perforato instructa, 1-locularis. *Semen* loculo conforme, meniscoideo-globosum, facie interna valde cavum. *Integumentum* tenue, membranaceum, reticulatum, in plicis albuminis insinuatum. *Embryo* fere rectus, paulo curvatus, inversus, intra *albumen* amplum carnosum quasi bilaminarem inclusus; lamina externa simplici tenuissima, interna valde crassa et in lamellas plurimas seu lobos transversos convoluto-plicatos profundissime ruminata, superficie hinc bullata; cotyledonibus tenuissime foliaceis oblongis profunde sinuato-laciniatis lateraliter divaricatis et in locellis sejunctis intra laminas utrinque positis, *radicula* supera brevi terete ad hilum spectante multo longioribus.—Frutices *scandentes*, *insulis* Indiæ Orientalis *indigenæ;* folia *longe petiolata*, *peltata vel palmata*, *5–7-nervia*, *crasso-coriacea*, *supra glabra*, *subtus tomentosa;* racemus ♂ *supra-axillaris*, *petiolo brevior;* flores *minuti*, *sessiles*, *in capitulis pedunculatis omnino cano-tomentosis dense aggregatis*. *Miers.*

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Coscinium *fenestratum.*

Coscinium fenestratum. *Colebr. in Linn. Trans. v.* 13. *p.* 65. *Walp. Repert. Bot. v.* 1. *p.* 95.

Pereiria medica. *Lindl. Fl. Med. p.* 370.

Menispermum fenestratum. *Gærtn. Fruct. v.* 1. *p.* 219. *t.* 46. *De Cand. Prodr. v.* 1. *p.* 451. *Roxb. Fl. Ind. v.* 3. *p.* 809.

Cissampelos convolvulacea, *α* et *β*. *Moon's Cat. p.* 70.

*Wennewelle*, or *Wennewelle-gette*, of the Cinghalese.

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We have received seeds of this plant at the Royal Gardens of

* The *condyle* is an extension of the placenta, sometimes internal, but mostly an external feature, offering an excellent and constant generic character of some importance in this family. *Miers.*—To Mr. Miers we are indebted for the above amended generic character of *Coscinium*, which he has prepared, with a complete analysis of figures, for his Memoir on the *Menispermaceæ*, and where the specific characters of three additional species will be given. *Ed.*

July 1st, 1852.

Kew, which are recently sown, from our valued friend Mr. Thwaites, of the Botanic Garden in Ceylon. These seeds were accompanied by a coloured drawing of the plant, which enables us to give the representation of a plant of some interest in the Materia Medica,—the same kind of interest I mean as is felt in the detection of the adulteration of Tea, Coffee, Tobacco, etc.; for there has been of late a very extensive importation of what we here term "*false Calumba-root*," instead of the true Calumba-root, *Jateorrhiza palmata*, Miers (Flora of the Niger Expedition), Cocculus palmatus, *De Cand.* (and of this work, Tab. 2970, 2971). Daniel Hanbury, Esq., of Plough-court, London, in a recent volume of the Pharmaceutical Journal, gave a history of this fraud on the public; and immediately opened a correspondence with Mr. Thwaites on the subject of the plant in question. The *Coscinium* was scarcely known to botanists but by the brief description of the curious seed (curious as to internal structure, published by Gærtner, l. c.), and the still imperfect description of the plant by Mr. Colebrooke in the 'Linnæan Transactions,' and Dr. Roxburgh in his 'Flora Indica,' from specimens and information communicated to those Indian botanists from Ceylon by General Macdowall. A notion had prevailed, derived from the name of the Calumba or Columbo plant or root, that it was derived from Columbo in Ceylon, and a native of that island. At length, as shown under our Tab. 2970, 2971, it was ascertained that the true plant was a native of Mozambique, where it is known by the name of *Kalumb*, or *Kalumba*. General Macdowall then sent our present plant to his scientific correspondents in order to ascertain whether this, much celebrated in the Cinghalese Pharmacopœia, was not the *true* Calumba-root, and for that purpose consigned "a pretty large bit of the *root*," sawed from the centre of a knot, to Dr. Roxburgh, that he might make experiments with it. Dr. Roxburgh, in a note, Fl. Indica, p. 811, at once sets the question at rest: "This is certainly not the *Calumba-root* of our Materia Medica." Nevertheless there have been large importations and ready purchasers for the Ceylon drug into England, the real properties or virtues of which (belonging though the plants do to the same Natural Family) are, to say the least, very problematical.

It now only remains for us to give Mr. Thwaites's remarks and descriptions in his own words. Ed.

"This species is very abundant near the sea-coast in Ceylon, and occurs also in the Central Province. The specimens from which the accompanying figure was taken were procured about twelve miles from Kandy. The Cinghalese value this plant very highly, using a decoction of the knotty parts of the stems (not the root*) as a

* In the 'Flora Indica' it is implied that the roots (not the stem) are employed, as is the case with the true *Calumba-root*.

tonic and anthelmintic. The wood yields an inferior yellow dye." *Thw.*

Some further remarks on the uses of this plant are given by Mr. Thwaites in a letter (dated Peradenia, August 14, 1851) to Mr. Hanbury, in reply to some queries of that gentleman. "The *Menispermum fenestratum*, Roxb., is taken here, I am told by an intelligent native, *mixed with other things*, in a great many complaints, and applied externally in some cases, such as for weak eyes, etc. The mode of preparing it, is to chop up the wood at the knots of the stem very small, and to boil it (with other things, which was particularly impressed upon me) in seven measures of water, until they are evaporated down to one measure. It seems to be one of the numerous universal medicines employed here in any and every complaint. It is quite impossible to get at any definite information from the natives as to what particular complaints certain plants are useful in. The priests, who are the doctors, appear to me to mystify the poor people by directing them to take certain leaves and roots which it often gives them no little trouble to find; and I think that the mind being employed in the matter, as well as the bodily exercise the patient often takes to procure the valued remedies, and a certain mixture of faith, have more to do with the cure than the drugs, some of which are evidently perfectly valueless except to feed cattle."

Descr. *Trunk* and large *branches* scandent, stout, thick, ligneous, and knotty. The *wood* of a deep, lively yellow colour, and of a pleasant bitter taste. *Leaves* alternate, petioled, cordate, entire, five- or seven-nerved, smooth and shining above, very hoary underneath, sometimes acuminate, sometimes obtuse; from three to nine inches long, and from two to six inches broad; in young plants frequently peltate. *Petioles* shorter than the leaves, round, downy. *Umbellets* or *heads* of flowers axillary, several from the same bud, on thick round downy *peduncles* of about an inch in length. *Flowers* numerous, subsessile, villous, of a brownish green. *Sepals* brown, villous; the three interior larger, pale within, and reflexed. Male. *Heads* of flowers smaller than in the female plant. *Stamens* six; the three inner cohering nearly to their summits; the three exterior nearly free, somewhat recurved. Fem. *Sterile filaments* strap-shaped, hairy. *Styles* much reflexed, becoming dark brown. *Drupes* nearly round, villous, of the size of a large filbert. As the fruit advances in size, the very short pedicel of the original flower lengthens into a pretty long, stout, cylindric, villous *pedicel*, ending in a round-headed receptacle, on which the one to three drupes are situated, surrounded by the permanent calyx. *Thw.*

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Tab. 4658. Branch with female heads of flowers and young fruit. Fig. 1. Portion of a branch, with male heads:—*natural size.* 2. Male flower. 3. Female flower:—*magnified.* 4. Fruits:—*natural size.*


2.
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# Tab. 4659.

# DENDROBIUM Farmeri.

*Mr. Farmer's Dendrobium.*

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Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4352.)

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Dendrobium *Farmeri;* caulibus elongatis clavatis articulatis profunde sulcatis basi pseudobulbosis apice foliosis, foliis 2–4 ovatis coriaceis striatis, racemis lateralibus multifloris pendulis, bracteis parvis ovatis concavis, sepalis (albo-flavescentibus roseo-tinctis) late ovatis obtusis, petalis conformibus (ejusdemque coloris) majoribus, labello majore (pallide flavo disco luteo) rhomboideo obtusissimo unguiculato lato supra pubescente margine denticulato.

Dendrobium Farmeri. *Paxton, Mag. of Botany, v.* 15. *cum Ic.*

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A most delicate and lovely *Dendrobium*, sent in 1847 by Dr. M'Clelland, from the Calcutta Botanic Garden, to W. G. Farmer, Esq., after whom it was named. Mr. Paxton observes, that "in habit and appearance the plant very much resembles *Dendrobium densiflorum*" (see our Tab. 3418), "but the stems are more angular, and the flower-scape is less densely laden with bloom; the flowers, too, are altogether different." The flowers, however, are more different in colour than they are in shape; and if true to its other characters, there is no difficulty in distinguishing this species. In the stove of the Royal Gardens of Kew it flowers in May.

Descr. Our plant has elongated club-shaped *stems*, jointed and deeply sulcated, growing in clusters; at the base they swell out into a kind of pseudo-bulb, scarcely so large as a hazel-nut. The young *stems* bear from two to four spreading, ovate, coriaceous or fleshy *leaves* at the top, acute, striated; the old stems throw out pendulous *racemes* from near the summit, which exceed the stems in length. *Flowers* numerous, but rather lax. *Bracteas* small, ovate, concave. *Sepals* very patent, broad, ovate, obtuse, pale straw-colour, delicately tinged with rose. *Petals* of the

same colour and form, but larger, spreading. *Lip* moderately large, pale straw-colour, the whole disc orange-yellow, broadly rhomboid, very obtuse, downy above, the base contracted into a claw, and above the claw the margin is on both sides folded and sinuated: the base above bears an oblong flattened tubercle. *Column* very short, terminated by the obtusely conical anther-case: the lower part of the column is extended downwards, so as to form an obtuse spur to the labellum.

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Fig. 1. Side view of a column, with anther-case and labellum. 2. Front view of a labellum :—*magnified*.



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Fitch, del et lith.

F Reeve, imp

# Tab. 4660.

# CEANOTHUS verrucosus.

## *Warted Ceanothus.*

Nat. Ord. Rhamneæ.—Pentandria Monogynia.

*Gen. Char. Calyx* 5-fidus, campanulatus, post anthesin medio circumscissus, basi sub fructu persistente, subadhærente. *Petala* 5, parva, longe unguiculata, fornicata, ramis 0. *Stamina* exserta, ante petala. *Styli* 2–3, ad medium coaliti. *Bacca* exsucca, 3-locularis (rarius 2–4-loc.), *cocculis* chartaceis 1-spermis basi perviis latere interiore dehiscentibus. *Semina* ovata, sulco destituta.—Frutices *inermes*, foliis *ovatis*. *De Cand.*

Ceanothus *verrucosus;* ramis oppositis ad nodos grosse verrucosis, foliis oppositis subrotundo-cuneatis orbicularibus v. coriaceis breve petiolatis penninerviis nitidis integerrimis vel dentatis supra glabris nitidis subtus minute reticulatis areolis villosulis, corymbis axillaribus, rachi nodoso-tuberculata, floribus pallide purpureo-cæruleis.

Ceanothus verrucosus. *Nutt. in Torr. et Gr. Fl. of N. Am. v.* 1. *p.* 267.

The discovery of this pretty and, as it proves, hardy evergreen shrub is due to the venerable Mr. Nuttall, who found it at Santa Barbara, Upper California. Our plants are derived from the Horticultural Society, who appear to have received the seeds from Hartweg, while he was in California, under the name of "*C. integerrimus;*" but by that name he could not intend the plant so called of Hooker and Arnott, in the 'Botany of Beechey's Voyage.' The plants have borne the open air in the Arboretum at Kew for two winters, and flower readily in April and May. Our specimens have been carefully compared with Mr. Nuttall's original ones, and they seem entirely to agree. The foliage in our plants is rather larger and generally more orbicular, a change that may be due to cultivation; and in both the leaves are very variable, even on the same specimens. Our flowers are very pale purplish-blue. They would appear "white" in the dried plant, as described by Torrey and Gray.

July, 1st 1852.

Descr. Our plant is nearly four feet high, much branched, with opposite and more or less spreading branches, which are terete, glabrous, studded at the nodes with two to four large, brown, ovate, acute, warty excrescences. *Leaves* opposite, and generally bearing a fascicle of young leaves in their axils, oval or cuneate, or orbicular-cuneate, or quite orbicular, almost sessile, very entire or more or less dentate, coriaceous, dark green, persistent, quite glabrous and glossy, and obscurely penninerved above, paler beneath, strongly penninerved and reticulated, the areolæ of the compact reticulations minutely villous. *Corymb* from the apex of small lateral branches: the *rachis* elongated, fleshy, indented as it were to receive the pedicels. *Flowers* pale purplish-blue. *Calyx* of five erecto-connivent ovate segments. *Pedicels* unguiculate; the *lamina* cucullate. *Stamens* five: *filaments* subulate, nearly erect, opposite the petals. *Ovary* sunk in a fleshy disc, and surmounted by five lobes. *Style* thick. *Stigmas* three, capitate. *Fruit* in Mr. Nuttall's specimens as large as a small pea.

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Fig. 1. Portion of a branch with leaves, showing the warts. 2. Flower. 3. Immersed ovary:—*maynified*.


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# Tab. 4661.

# CŒLOGYNE ochracea.

## *Ochre-spotted Cœlogyne.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4440.)

Cœlogyne *ochracea;* pseudobulbis apice tetragonis, foliis anguste lanceolatis obscure 5-nerviis in petiolum angustatis racemo paucifloro apice nutante longioribus, labelli 3-lobi intus pubescentis lobis lateralibus rotundatis intermedio ovato acuminato obtuso sinu denticulato integrove lamellis 2 rectiusculis integris cis medium apicem evanescentibus linea brevi elevata apice dentifera prope basin interjecta. *Lindl.*

Cœlogyne ochracea. *Lindl. Bot. Reg.* 1846. *t.* 69.

This, if not a very showy, is a very fragrant species of *Cœlogyne*, very common in the hilly and mountain regions of North-eastern India. Introduced to our collection by Thomas Brocklehurst, Esq., of the Fence, near Macclesfield. In the Royal Gardens it flowers in May, when our drawing was made.

Descr. *Pseudo-bulbs* clustered, small, oblong, slightly tapering, compressed below, obtusely four-angled above, at the base sheathed by the lower portion of large membranaceous scales. *Leaves* two or three, terminating the fully formed pseudo-bulbs, lanceolate, submembranaceous, striated and subplicated, acute, tapering below into a long *petiole*, at length deciduous. The young pseudo-bulbs, before the leaves are developed, produce at the apex the nearly erect *peduncle*, with its raceme of seven or eight fragrant, white blotched with yellow *flowers*. *Bracteas* lanceolate, boat-shaped, membranaceous, deciduous. *Sepals* and *petals* subspathulato-ovate, acute, spreading, pure white. *Lip* oblong, three-lobed; lateral lobes rounded, curved in (forming a concave base to the lower half of the labellum), somewhat gibbous or obtusely spurred below; middle lobe ovato-acuminate,

reflexed: the whole is white, blotched with yellow, with two horse-shoe figures on the disc of the middle lobe of the lip, bordered with deep orange. The disc at the base has an elevated line. *Column* dilated upwards. *Anther-case* semiglobose. *Pollen-masses* four, attached to a gland.

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Fig. 1. Side view of a column and lip. 2. Front view of a lip. 3. Front view of a column. 4. Pollen-masses:—*magnified*.


1.

# Tab. 4662.

# IMPATIENS macrophylla.

## *Large-leaved Ceylon Balsam.*

Nat. Ord. Balsamineæ.—Pentandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4615.)

Impatiens *macrophylla;* erecta herbacea simplex, foliis alternis amplis (nunc subpedalibus) ovatis acuminatis grosse mucronato-serratis utrinque pilosis basi setis mollibus glandulosis fimbriatis in petiolum longum (rubrum) parce setoso-glandulosum attenuatis, pedunculis unifloris axillaribus dense aggregatis petiolo brevioribus, floribus parvis luteo-roseis, sepalo superiore (sepalis 2 unitis) apice unguiculato inferiore cucullato glabro calcare brevi incurvato parcissime setoso apice inflato didymo.

Impatiens macrophylla. *Gardn. in Herb. Hook.*

We have here another of the many curious species of Balsam which abound so much in Ceylon, and we may say perhaps in the moist and mountainous parts of India generally. Our gardens are indebted for seeds of this to Mr. Thwaites, the able superintendent of the Botanic Garden at Peradenia, who sends it to us from Adam's Peak (no. 436 of Mr. Thwaites' dried collection), and Mr. Gardner's specimens (no. 159 of his collection) are from Newra Ellia, at 6000 feet of elevation. We had, many years ago, received Ceylon specimens, without any particular locality, from Mrs. General Walker. Our plants flowered, at the Royal Gardens, in a moist but not very hot stove, in the early summer of the year after the seeds were sown; and, small though the blossoms are, yet their deep tawny orange-colour, stained with red, and the numerous long bright petioles, together with the ample foliage, render this a handsome plant.

Descr. Our plants attain a height of from two to three feet: in their native country they are probably much taller. The *stem* is erect, straight, as thick as, or thicker than, one's finger, purplish. *Leaves* mostly at the top of the stem, below them are the scars of many fallen ones: they are crowded, alternate or scat-

tered, large, five to six inches long (some of our native specimens measure nearly a foot), ovate, much and gradually acuminated, pilose on both sides, dark green above, paler beneath, closely penninerved; the margin everywhere serrated, the serratures mucronate; at the base the margin is fringed with long soft bristles, tipped with a gland, and is gradually attenuated into the long, stout, bright red *leaf-stalk* upon which are a few scattered glandular setæ. *Peduncles* axillary, aggregated (often densely crowded), much shorter than the petioles, single-flowered, having minute *bracteas* at the base. *Flowers* small for the size of the plant, deep tawny orange, stained with red. The upper *sepal* is oblong, convex, red, terminated with a long claw-like point. The lower one, or *labellum*, is cucullate, the mouth ending in a sharp recurved acuminated point, like the mouth of a ewer: the spur is short, hispid, with a few long bristles, singularly incurved, almost upon itself, and swollen and didymous at the apex.

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Fig. 1. Flower:—*magnified*.

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Fitch del.et.lith

# Tab. 4663.

# DENDROBIUM TRANSPARENS.

*Transparent Dendrobium.*

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Nat. Ord. Orchideæ.—Gynandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4352.)

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Dendrobium (Eudendrobium) *transparens;* caulibus elongatis teretibus articulatis strictis, foliis subdistichis lineari-lanceolatis curvatis, floribus geminatis, sepalis acuminatis, petalis obtusis sepalo supremo paulo majoribus, labello obovato oblongo obscure trilobo apice recurvo undulato ciliolato intus striato pubescente.

Dendrobium transparens. *Wall. Cat. n.* 2008. *Lindl. Gen. et Sp. Orchid. p.* 79.

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Specimens in our herbarium from Dr. Wallich show that this is the *Dendrobium transparens* of that author, a native of Nepal, which Dr. Lindley compares with *D. Pierardi*, a similarity more apparent in the dried than in the recent state. It is a native of Nepal, and probably many other parts of Eastern Bengal. Our plant was received among a collection of living *Orchideæ*, sent to us from Assam by Mr. Simon. Few species are more lovely, even among the oriental Epiphytes, which are proverbial for their beauty over those of the New World. The ground-colour is a transparent white, but all the petals and sepals and lip are tinged with rose-colour towards the apices, and the inside of the labellum has a large deep blood-coloured blotch passing into striæ at the edges. With us the species flowers profusely during the summer months, and the flowers are copious on the stem.

Descr. *Stems* eight to ten inches long, as thick as a swan's quill, clustered from a fibrous *root*, and at the root swelling into a kind of bulb or tuber, about the size of a pea; striated, jointed, the young ones bearing a *leaf* at the joints, three to four inches long, linear-lanceolate, more or less acute, recurved, the bases of the leaves sheathing the whole stem, and striated. The old

stems, from which the leaves have fallen, bear the *flowers*, two from each joint, spreading, moderately large. *Sepals* spreading, lanceolate, moderately acuminate, and white, tipped with purple rose-colour: *petals* the same, but broader, a little larger and more obtuse. *Lip* larger than either sepals or petals, oblong-ovate, tapering to its jointed base, also white; the recurved obtuse apex tinged with rose; the sides (two obscure lobes) involute; the margins waved, ciliated; the upper or inner surface pubescent, with a double elevated line down the centre, and bearing on the white disc a large dark purple or blood-red spot, passing into oblique striæ at the edges. *Column* very short, but the base much extended into the *spur*. *Anther-case* hemispherical, white.

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Fig. 1. Ovary, column, and lip:—*magnified.*

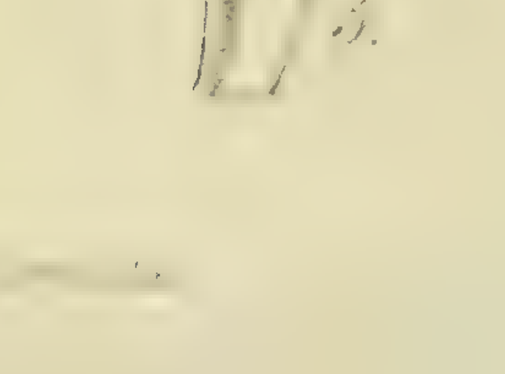




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# Tab. 4664.

# CEANOTHUS rigidus.

*Rigid Ceanothus.*

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Nat. Ord. Rhamneæ.—Pentandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4660.)

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Ceanothus *rigidus;* ramis oppositis, ramulis pubescentibus subangulatis ad nodos grosse verrucosis, foliis oppositis subrotundo-cuneatis fere sessilibus crassis rigidis spinoso-dentatis supra glabris nitidis sub lente impresso-punctatis subtus reticulatis areolis profundis villosis, umbellis axillaribus basi bracteatis, corollis intense purpureo-cæruleis.

Ceanothus rigidus. *Nutt. in Torr. et Gr. Fl. of N. Am. v.* 1. *p.* 286. *Journ. of Hort. Soc. Lond. t.* 5. *p.* 197. *Benth. Plantæ Hartw. p.* 302. *Lindl. et Paxt. Fl. Gard. v.* 1. *p.* 74 *cum Ic.*

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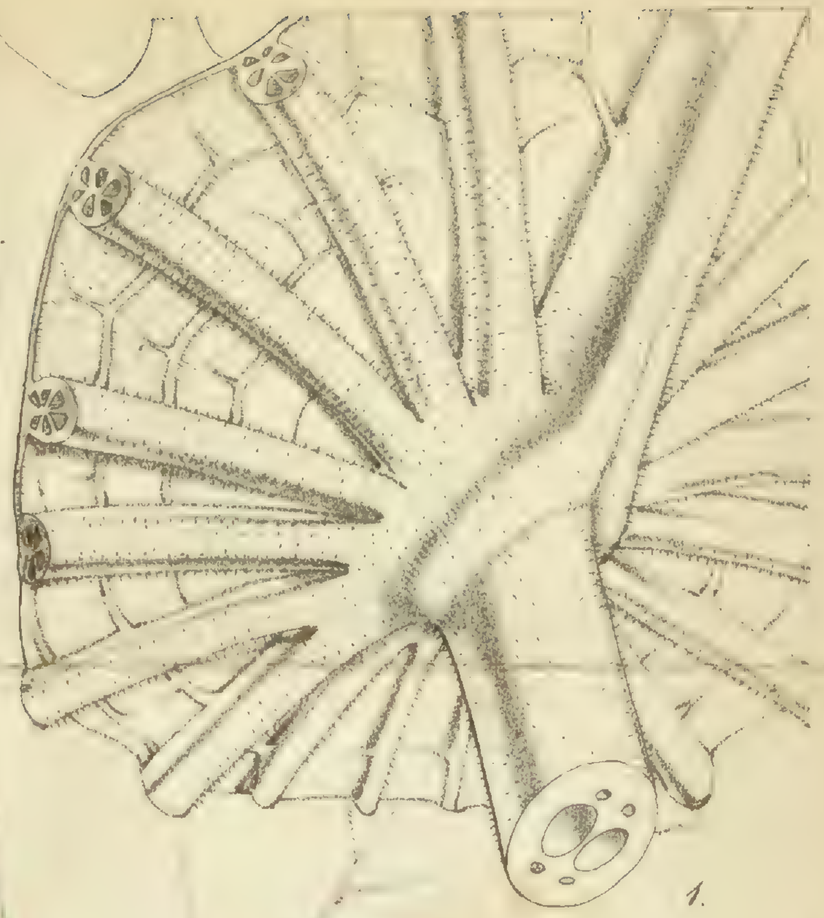
We are indebted for the possession of this pretty shrub to the Horticultural Society of London, who introduced it to the English gardens through Mr. Hartweg, of whose dried collections it is no. 1680. It inhabits Monterey, in California. Besides the specimen from Mr. Hartweg, and original ones from Mr. Nuttall, we possess the plant from Dr. Coulter, Mr. Douglas, and Mr. Lobb. It is far more rigid and branching even than our common Sloe (*Prunus spinosa*); but then the densely placed glossy evergreen foliage, and rich deep purple-blue and copious blossoms, early in May, render it a most desirable species for our gardens and shrubberies. Our figure is from a good-sized shrub, which has braved two winters unharmed in a very exposed part of the Kew arboretum.—The North-west American *Ceanothuses* are particularly deserving of cultivation in the open ground; but it may require a Devonshire climate to bring them to the state in which they are at Bishopstowe, as just announced to me in a letter, dated 27th May, 1852, of the Bishop of Exeter. "The *Ceanothus divaricatus* is now in its highest beauty: the largest

plant is eighteen feet high, eighteen feet wide, twelve feet deep (*i. e.* from back to front), covered with thousands of the beautiful thyrsoid flowers, so that the leaves are hardly visible. *C. rigidus* blossomed about six weeks ago; *C. dentatus* is now in full flower; *C. papillosus* is just coming into flower; *C. azureus* will not blossom before August."

Descr. Our young plants are two and a half feet high, scarcely half the height they may be expected to reach; harsh, rigid, and very much branched, with the *branches* opposite, straight, copiously leafy: at the internodes, or setting on of the leaves and branchlets, are two to four stout, sharp-pointed, large, smooth, brown warts. *Leaves* invariably opposite, on very short petioles, nearly sessile, spreading, subrotund or subcuneate, obtuse or retuse, concave above, glossy, as seen under the lens impresso-punctate; the margin beset with rather distant, short, spiny teeth, pale beneath, and minutely reticulated; the areolæ deep and pubescent. *Umbels*, rather than corymbs, lateral or more rarely terminal; the rachis from which the short rays spring short and fleshy. *Flowers* of a rich purple blue; in other respects exactly resembling those of *Ceanothus verrucosus*, figured in our last number, Tab. 4660.

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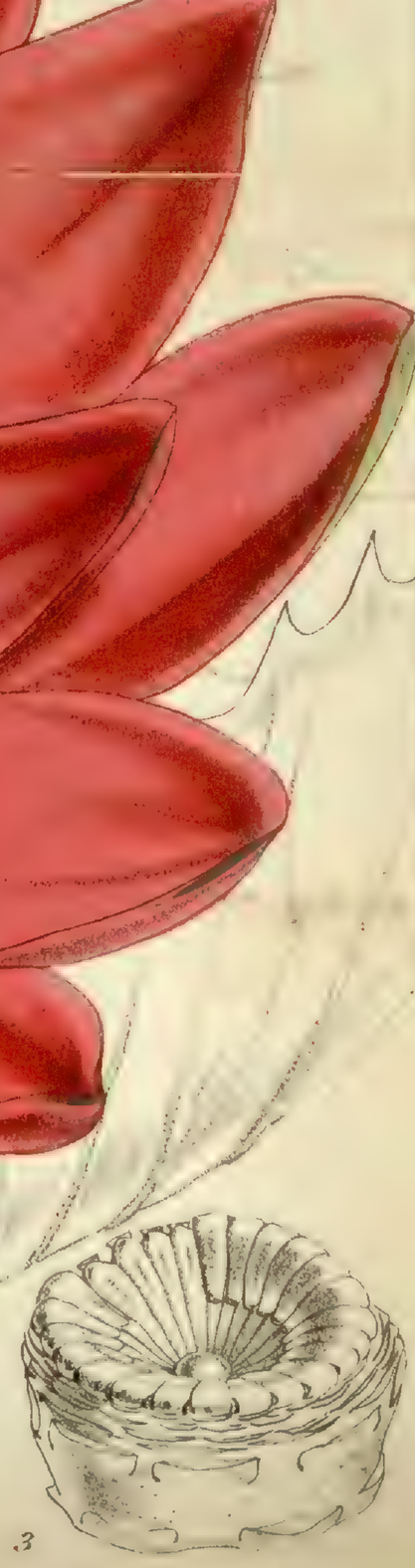
Fig. 1. Portion of stem-leaves and warts. 2. Flower. 3. Ovary:—*magnified*.



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# Tab. 4665.

# NYMPHÆA (hybrida) Devoniensis.

*Duke of Devonshire's Nymphæa; hybrid.*

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Nat. Ord. Nymphæaceæ.—Polyandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4257.)

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Nymphæa *Devoniensis. Paxton, in Gardeners' Chronicle, for Saturday*, 10*th July*, 1852. (For specific characters and synonyms of the parent species, see *Nymphæa rubra*, Tab. 1280, and *N. Lotus*, Tab. 797.)

Hybrida, *Devoniensis;* floribus foliisque multo majoribus, calyce basi conico pallido, staminibus erectis. Tab. Nostr. 4665.

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For the opportunity of figuring this truly splendid plant, we are indebted to Mrs. Spode, the lady of Joshua Spode, Esq., Armitage Park, Rugely, Staffordshire, whose gardens and rare exotics are celebrated in the neighbourhood, and are likely to be still more so from the taste and skill displayed by their generous proprietors, and by the zeal and energy of their intelligent head gardener. The *Nymphæaceæ*, including the *Victoria*, are there cultivated in great perfection; but however interesting this latter plant may be, and is, in size and structure, it does not surpass in beauty the present, which was contributed to their aquarium from Chatsworth: and it is this, we presume, which we find mentioned in the leading article of the 'Gardeners' Chronicle,' above quoted. The writer, after recommending the advantages that might be expected to accrue by hybridizing *aquatic plants*, proceeds to say: "At this moment there is actually flowering at Chatsworth a mule produced by crossing *Nymphæa rubra* with *N. Lotus*. Seeds were obtained in the autumn of 1850, and from them, in the following summer, Sir Joseph Paxton had the gratification of finding himself in the possession of a most beautiful hybrid, which he named *Devoniensis*, after the Duke, his patron. · In leaf and flower it has a great advantage in point

of size and robustness of growth over either of its parents; but its most valuable property is its continuing to flower the whole of the season without intermission. The present plant produced its first flower as early as the 12th of April, 1851, and continued to flower till the middle of October, when it was removed with a fine succession of flower-buds still upon the plant to its winter quarters. During this period it often had two expanded flowers and five buds in different stages of development. It produces its flowers quite as freely as *N. dentata**. Its beautiful colour (which is not quite so deep as its parent), and its large size, which has often been as much as eight inches in diameter, together with its fine leaves, which are seldom less than thirteen to seventeen inches across, render it one of the best *Nymphæas* in cultivation."

Our living plant at Kew, the possession of which we owe to Mrs. Spode, as well as fine cut specimens we have received for figuring from Armitage, and noble fresh samples at this moment lying before us (July 16, 1852) sent by Mr. Davison from Sir W. Molesworth's tropical aquarium, Pencarron, Cornwall, amply justify all that Sir Joseph Paxton has said above; and we trust yet to live to see a well-constructed tank, in which the variously-coloured *Nelumbia* and *Nymphææ*, now known to us, including the majestic *N. gigantea* (see our Tab. 2647), lately imported by Messrs. Standish and Noble, shall be suitably grouped.

Mr. Davison observes, that with him *Devoniensis* grows and flowers most freely, planted in rough turf taken from a pasture and laid in a heap one year previous to its being used, with one-sixth of dried cow's-dung. The water in the tank in which it grows is kept from 75° to 80°.

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Fig. 1. Portion of the under side of the leaf seen near the petiole:—*natural size*. 2. Ovary and stigma with part of the ray removed:—*natural size*. 3. Anther:—*magnified*.

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* The name *N. dentata* is introduced here as if it were one of the parents of *N. Devoniensis*, rather than *N. Lotus*, as previously mentioned. *N. Lotus* and *N. dentata* are very closely allied species, if they be really and truly distinct. At our Tab. 4257 I have pointed out in the pale and depressed base of the calyx of *N. dentata*, giving that part a somewhat conical form, what may perhaps prove a distinguishing mark, and that character we find in *N. Devoniensis*. Mr. Davison, at Pencarron Gardens, speaks of the *N. Devoniensis* as "a hybrid between *N. rubra* and *N. dentata*."



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# Tab. 4666.

# PAULOWNIA IMPERIALIS.

*Imperial Paulownia.*

Nat. Ord. Scrophulariaceæ.—Didynamia Angiospermia.

*Gen. Char.* *Calyx* profunde 5-fidus, laciniis crassis. *Corollæ tubus* elongatus, declinatus, superne ampliatus, *limbi* obliqui laciniis rotundatis. *Stamina* basi declinata, dein ascendentia, quinti rudimentum nullum. *Antherarum loculi* paralleli, apice vix confluentes. *Stylus* superne parum incrassatus, obtusus vel emarginatus, summo apice pertusus, intus stigmatosus. *Capsula* lignosa, acuminata, loculicide bivalvis: valvulis integris, medio septiferis. *Placentæ* 2 distinctæ, compressæ, medio dissepimento affixæ, tandem liberæ. *Semina* numerosissima, oblonga, ala membranacea circumdata; testa tenui, appressa, striata. *Embryo* rectus. *Benth.*

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Paulownia *imperialis.*

Paulownia imperialis. *Sieb. et Zucc. Fl. Jap. v.* 1. *p.* 27. *t.* 10. *Paxt. Mag. of Bot. v.* 10. *p.* 7. *cum Ic. Benth. in De Cand. Prodr. v.* 10. *p.* 300. *Walp. Repert. Bot. v.* 3. *p.* 262 *and* 938. *v.* 6. *p.* 745.

Bignonia tomentosa. *Thunb. Fl. Jap. p.* 252.

Incarvillea tomentosa. *Spreng. Syst. Veg. v.* 2. *p.* 836.

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We have at length the satisfaction of giving a figure of this noble plant, the first published from flowers produced in the open air in England. The opportunity of doing so is afforded me by the kindness of the Right Rev. the Lord Bishop of Exeter, who did me the favour to send me two panicles from his favoured grounds of Bishopstowe, near Torquay. "The blossoms," his Lordship writes, "are in terminal clusters; and the odour (which will probably be lost when it reaches you) is of a very delicate *violet-like* character."—"But, after all, the effect to the eye is rather disappointing; for the blossom precedes the leaves, which are not yet half out." The fragrance, so far from being lost on the journey, was rather increased, and the box retained the very agreeable odour some days after the flowers were removed. Unquestionably the absence of leaves, as the Bishop justly observes, is a great deficiency, especially in a plant whose size prevents the blossoms from being closely inspected upon the tree; yet a cut panicle of these large pale violet-purple blossoms, as large as those of the Foxglove, with a young shoot of tender green leaves, is a very lovely object, to say nothing of the fragrance as a further recommendation. Unfortunately it is only in climates

analogous to the south of Devonshire* where its blossoms can be reasonably looked for. About London we find our strongest and healthiest plants with their terminal shoots (which alone produce flowers) nipped, and more or less killed, by the winter's cold, or, what is worse, the biting north-east winds of spring. The summer-growth of this tree is almost everywhere, in the middle and south of England at least, remarkable: stout limbs are thrown out in a short time, bearing ample foliage; but these limbs are soft and succulent, the later shoots incapable of bearing a moderate frost. In France, even at Paris, the wood ripens better.

Although forming a tree (in its native country, Japan, thirty to forty feet high), and bearing flowers like a *Bignonia*, and with a foliage and habit like *Catalpa*, the *Paulownia* belongs nevertheless to the *Scrophularia* family. Dr. Siebold considers it "un des plus magnifiques végétaux du Japon;" and partly on this account and partly "parceque la feuille ornée de trois tiges de fleurs a servi d'armes au célèbre héros TAIKASMA, est encore aujourd'hui fort en honneur en Japon,"—"nous avons pris la liberté de nommer PAULOWNIA ce nouveau genre, pour rendre hommage au nom de Son Altesse Impériale et Royale la Princesse héréditaire des Pays Bas."

In Japan the trunk of the tree attains an elevation of thirty to forty feet. Its growth in Dr. Siebold's garden has been six to ten feet in one year, and in three years a diameter of four to five inches. The flowers appear in April, and are grouped in large compound panicles, like those of the Horse-chestnut. It appears most abundantly in the southern countries of Japan, flourishing in the valleys and on the sides of hills exposed to the powerful action of the sun.

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Fig. 1. Pistil. 2. Stamen. 3. Transverse section of the ovary:—*magnified.*

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* Who would not wish to see a Botanic Garden established in a climate like that of Bishopstowe? There, for example, are at this moment flourishing the various Californian species of *Ceanothus* (as mentioned in another part of this number, Tab. 4664), the blue-flowered ones, no doubt, with their glossy perennial foliage, more agreeable to the eye than the *Paulownia*. A *Eucalyptus* (supposed to be eight years old) is twenty feet high. *Juniperus Bermudiana* (the pencil Cedar) thrives well in the open lawn. The orange-scented *Pittosporum*, eight feet high and ten feet across, flowered at Christmas, and again more profusely in spring. The undermentioned trees, only two years old, have attained the following size:—

| | Ft. | In. |
|---|---|---|
| *Juniperus Lambertiana* | 6 | 9 |
| ——— *macrocarpa* | 8 | 0 |
| ——— *Bedfordiana* | 3 | 3 |
| *Cryptomeria Japonica* | 11 | 6 |
| *Taxodium sempervirens* | 8 | 9 |
| *Chamæcyparis thurifera* | 7 | 6 |
| *Cupressus funebris* | 2 | 6 |

2
3

# Tab. 4667.

# CURCUMA Roscoeana.

*Mr. Roscoe's Curcuma.*

Nat. Ord. Scitamineæ.—Monandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4435.)

Curcuma *Roscoeana;* radicibus e fibris plurimis tuberiferis, tuberibus parvis ovalibus, foliis oblongis acuminatissimis unicoloribus glabris, spica centrali oblonga subtetragona aurantiaca nuda, bracteis obovatis obtusissimis apice patentibus, anthera cristata, loculis discretis ecalcaratis.

Curcuma Roscoeana. *Wall. Plant. As. Rar. v.* 1. *p.* 8. *t.* 9. (not tab. 57, as quoted by Dietrich.)

At our Tab. 4435 we have given the figure of a beautiful *Curcuma* from the Iriwaddi, *C. cordata* of Dr. Wallich, and sent by that gentleman to the noble owner of Syon Gardens. The present species is equally from Syon, and derived from the same source. Both are indeed well figured in the splendid 'Plantæ Asiaticæ Rariores,' and well described there. That zealous botanist accurately figures the structure of the flowers, which he observes "is different from any detected in other species, and in some degree invalidates the character of the genus, as it now stands; for the anther is terminated, as is the case in *Kæmpferia*, by a large oval crest, and its base is perfectly naked (not ending below in two spurs): its cells resemble those of *Habenaria*, being completely separated from each other by a deep and broad furrow, and vanishing upwards." The species is an inhabitant of Pegu, and the coast of Tenasserim. At Syon it flowers in July, and has a striking appearance, with its large spike of bright orange-red bracteas.

Descr. *Plant* one to two or three feet high. *Root* a short *caudex*, with many descending *fibres*, each generally terminated with a small oval *tuber*. *Stem* formed of the sheathing leaf-stalks. *Leaves* a foot or a foot and a half long, oblong, much

and sharply acuminated, costate, obliquely striated, uniform green, but subglaucous beneath. *Spike* erect, more than a span long, erect, composed of a great number of obovato-ligulate, subcucullate, deep orange-red *bracteas*, spreading at the apex, less bright and much tinged with green at the base. The hollow of each bractea contains two or three *flowers*, which are bright, but not very deep, yellow, scarcely protruded. Their structure as in the genus. *Anther*, indeed, very broad and villous at the back, ciliated at the edge, terminated by a large transversely oval or broad cordate *crest*. *Style* accompanied at the base by two linear scales. *Stigma* transverse, subinfundibuliform.

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Fig. 1. Flower from which the three outer segments of the corolla are removed. 2. Anther embracing the apex of the style and stigma.

1.

2.

# Tab. 4668.

# MECONOPSIS Wallichii.

## *Dr. Wallich's Meconopsis.*

Nat. Ord. Papaveraceæ.—Polyandria Monogynia.

*Gen. Char. Petala* 4. *Stamina* numerosa. *Stylus* lævis. *Stigmata* 4–6, radiantia, convexa, libera. *Capsula* obovata, 1-locularis, valvulis 4–6 apice dehiscens, placentis tenuibus vix intus in membranulas angustas productis.—Herbæ ***perennes, succo flavescente fœtæ. De Cand.***

Meconopsis *Wallichii;* elata, tota herba subglaucescens pilis longis rufescentibus patentissimis setosa, foliis radicalibus petiolatis pinnatis apicem versus pinnatifidis pinnis lobisque ovato-oblongis inciso-sinuatis, caulinis oblongis sinuato-pinnatifidis sessilibus, floribus amplis nutantibus in racemum elongatum foliosum inferne compositum dispositis, corollis cærulescentibus, ovario elliptico dense appresse ferrugineo-setoso, stylo terete longitudine ovarii.

Meconopsis. *Wall. Cat. n.* 8123. *β.*

A very handsome species of *Meconopsis*, detected in Sikkim-Himalaya by Dr. Hooker, who sent seeds to the Royal Gardens, which produced flowering plants in June, 1852. It is assuredly no described species, though agreeing in some respects with *M.? Nepalensis*, De Cand. (*Papaver paniculatum* of Don), which has yellow flowers, and a "globose capsule, as large as a garden cherry." It quite accords with an unnamed "Meconopsis, n. 8123, *β.*" of Wallich's Catalogue, from "Kamaon?" Dr. Hooker has another and apparently distinct species in his Herbarium, with much longer, *yellow* flowers, and a much more compound raceme, or panicle.

Descr. The *plant*, with us, grown in pots in a frame, attains a height of two and a half to three feet: the whole herb is pale subglaucous green, everywhere hispid, with long spreading ferruginose setæ. *Radical leaves* large, petiolate, lyrato-pinnate, or pinnate below and pinnatifid above, the *pinnæ* and *lobes*

ovato-oblong, sinuated. *Stem-leaves* sessile, oblong, pinnatifid. *Flowers* large, drooping, arranged in an elongated leafy *raceme*, compound below. *Peduncles* and *pedicels* rather short, curved downwards, erect in fruit. *Calyx* of two oblong, very concave, deciduous *sepals*. *Corolla* of four subrotundo-obcordate, spreading, pale-blue *petals*, having sometimes a slight tinge of green. *Stamens* very numerous. *Anthers* orange-yellow, crowded so as to form a large ring around the style. *Ovary* elliptical-oblong, clothed with a dense mass of erect, appressed, rufous, somewhat plumose *setæ*, one-celled, with six or seven parietal *receptacles*. *Style* cylindrical, as long as the ovary. *Stigma* capitate, of six or seven dark green, erect lobes.

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Fig. 1. Pistil. 2. Transverse section of the ovary :—*magnified.*



# Tab. 4669.

# CALANTHE VIRIDI-FUSCA.

*Greenish-brown Calanthe.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4541.)

Calanthe *viridi-fusca*; pseudobulbis oblique lato-ovatis lobato-sulcatis, folio solitario lanceolato acuminato striato basi longe vaginato, scapo radicali glabro, spica elongata laxa multiflora, sepalis petalisque (viridi-fuscis) lanceolatis, labello erecto oblongo subspathulato columnam amplectente 3-lobo lobis lateralibus brevibus obtusis intermedio lato semiorbiculari mucronato, disco longitudinaliter lamellato maculato, calcare brevi obtuso incurvo.

A native of Assam, whence it was sent to the Royal Gardens of Kew by Mr. Simon. It flowered with us in April, 1852; and is remarkable among known species of *Calanthe* for the erect or nearly closed sepals and petals, the peculiar form of the lip, and the colour of the flowers. We presume it to be terrestrial. The habit approaches that of *Calanthe Masuca* more than any other species.

Descr. The *pseudo-bulb* is broad-ovate, spreading out most on one side, dark green, firm, at the base furrowed and lobed, the upper part more or less covered with the remains of the long sheathing scales of the preceding year's leaf. *Leaf* solitary, arising from an infant inconspicuous *pseudo-bulb*, a foot or more long, lanceolate, membranaceous, plicato-striate, much and gradually acuminated at the point, the base tapering into a very long *petiole*, which is sheathed by three or four, long, cylindrical scales. *Scape* (including the long lax *spike*) a foot and a half long, terete, glabrous, erect, arising from the base of a pseudo-bulb bearing brown, striated, sheathing, membranous bracteas, especially at the base. *Spike* many-flowered, bracteated; *bracteas* subulate, green, one under each ovary, and shorter than it. *Ovary* slender, clavate. *Flowers* greenish-brown, moderately

large. *Petals* and *sepals* lanceolate, nearly uniform, and, as well as the labellum, erect, so as almost to close over the column of fructification, quite concealing it. *Lip* broad, oblong or oblong-spathulate, applied to the column, but scarcely connate with it, which is embraced and almost included in its involute sides; three-lobed, lateral *lobes* ovate, erect, middle or terminal one a little reflexed, cordato-subrotund, mucronate; the colour of the lip is yellowish-green, spotted or dotted in lines with purple within; and, running nearly the whole length of the disc, are three *lamellæ*, a little fimbriated at their termination. *Spur* short, blunt, compressed, incurved, yellow, didymous at the apex. *Column* long for the genus, semiterete, furrowed in front, yellowish, blotched with rose-colour. *Anther-case* sunk in the apex of the column. *Pollen-masses* eight, as in the genus.

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Fig. 1. Column and lip in their natural position. 2. Column. 3. Pollen-masses. 4. Labellum:—*magnified.*



F. Reeve. imp

# Tab. 4670.

# BRYA Ebenus.

*Jamaica Ebony.*

Nat. Ord. Leguminosæ.—Diadelphia (rather Monadelphia) Decandria.

*Gen. Char.* *Sepala* 5, in calycem subbilabiatum 5-dentatum concreta. *Petala* 5, in corollam papilionaceam disposita. *Stamina* monadelpha, decimo ad medium cæteris concreto. *Legumen* biarticulatum, articulis monospermis dehiscentibus compressis, sutura superiore recta inferiore convexa, articulo sup. interdum nullo.—Arbores *Americanæ*, spinis *stipularibus*, foliis *simplicibus congestis* (*forsan potius* 3-*foliolatis ?* foliolis sessilibus). *De Cand.*

Brya *Ebenus.*

Brya Ebenus. *De Cand. Prod. v.* 2. *p.* 421. *M'Fad. Fl. of Jam. p.* 301.

Amerimnum Ebenus. *Sw. Prod. Ind. Oc. p.* 104. *Spreng. Syst. Veget. v.* 3. *p.* 191.

Pterocarpus glabra. *Reich.*

Pterocarpus buxifolius. *Murr.*

Pterocarpus foliis aggregatis. *Plum. ed. Burm. t.* 249. *f.* 1.

Brya arborescens, etc. *Browne, Jam. p.* 299. *p.* 31. *f.* 2.

Aspalathus arboreus, etc. *Sloane, Jam. v.* 2. *p.* 3. *t.* 175. *f.* 1.

A well-known West Indian shrub, or rather tree, especially common in Jamaica, whence our plant was derived; but it is little seen in cultivation, by no means so much as it deserves: for although in its native country it attains a height of fifteen or twenty feet (M'Fadyen; Sloane says forty feet), yet, cultivated in a pot, in a warm stove, it maintains a shrubby character for a very great number of years, with pretty, evergreen, box-like foliage, bearing copious bright orange pea-shaped flowers in the month of May, yielding a delicious perfume. It abounds in the savannas and dry hills of Jamaica, where Dr. M'Fadyen says, with its long twiggy branches, it reminds the traveller of the Broom of Europe. The wood is hard and ponderous, of a fine greenish-brown colour, susceptible of a good polish and used

formerly to be imported into Europe: but it is extremely different from the true Ebony of commerce, *Diospyros Ebenus* of Madagascar; and the trunk, rarely exceeding four inches in diameter, can only yield small samples for cabinet-work. "The slender branches," says Patrick Browne, "are very tough and flexile, frequently used for riding-switches, and in his days (days happily now gone by) generally kept at all the wharfs about Kingston to scourge the refractory slaves."

Descr. A *shrub* or small *tree*, from eight or ten to forty feet high, with long twiggy branches, armed with short, sharp, subulate, stipulary *spines*. *Leaves* solitary or in clusters, box-like, evergreen, obovato-cuneate, sessile. *Flowers* axillary, solitary, or two or three together. *Peduncle* short, with a pair of minute, opposite, small bracts above or near the middle. *Calyx* bell-shaped, pubescent, obscurely two-lipped: *upper lip* bipartite, *lower* tripartite; *segments* ovate, acute, the lowest one spreading, the rest erect. *Corolla* bright orange-yellow. *Vexillum* subrotund, with deep purple streaks in the centre. *Alæ* and *carina* oblong, somewhat falcate, obtuse; all the petals with short claws. *Stamens* ten, monadelphous, nearly as long as the alæ. *Anthers* subglobose. *Pistil* hairy. *Ovary* oblong, of two joints, the upper side with an even line, below bigibbose, the upper joint tapering into a long subulate style: *stigma* a mere point. "*Legumen* pedicelled, not an inch in length, compresso-foliaceous, with the *valves* chartaceous, hirsute with minutely capitate hairs, biarticulate; lower joint with the upper suture nearly straight, and the under convex; upper joint small, abortive." *M'Fadyen.*

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Fig. 1. Calyx, stamens, and pistil. 2. Vexillum. 3. One of the alæ. 4. Carina. 5. Pistil:—*all magnified.*




F. Reeve, imp.

# Tab. 4671.

# CALANTHE vestita.

## *Hairy-stemmed Calanthe.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4541.)

Calanthe *vestita*; pseudobulbis late ovatis subrotundatisve striatis tenui-reticulatis, foliis amplis glabris lato-lanceolatis acuminatis striatis, scapis radicalibus ovariisque molliter villosis, spica laxa pluriflora, labelli lamina triloba lobis lateralibus oblongis obtusis intermedio cuneato divergenti-bilobo inappendiculato, calcare filiformi inflexo labello breviore.

Calanthe vestita. *Wall. Cat. n.* 7345. *Lindl. Gen. et Sp. Orchid. p.* 250; *and in Paxt. Fl. Gard. v.* 1. *p.* 106. *fig.* 72.

Discovered by Dr. Wallich in Tavoy; but it does not appear to have been introduced to our stoves till very lately by the Messrs. Rollison, who received it from their collector at Moulmein. Of the many Indian species of *Calanthe* now known to us, the flowers of this are decidedly the largest; some of the pure white flowers (or with only a spot of yellow on the disc of the labellum) measuring two and a half or two and three-quarter inches from tip to tip of the petals. The leaves, too, are broad, and the pseudo-bulbs often much larger than our figure represents them. It flowered at the Messrs. Rollisons' Tooting Nursery in April, 1852. It seems to have previously flowered with the Messrs. Veitch in 1848, when the large silver medal, the highest ever given in Regent-street, was awarded to it by the Horticultural Society.

Descr. Old *pseudo-bulbs* broadly ovate or subrotund, sometimes four to five inches long and seven to eight inches in circumference, obtusely angular, partially sheathed with membranaceous *scales*, pale grey or ash-colour, striated and reticu-

lated, terminated with the remains of the former year's leaves. *Leaves* appearing after the flowers, two or more from a young pseudo-bulb, large, a foot to a foot and a half long, four to five inches broad, broad-lanceolate, much acuminated, membranaceous, striated. *Scape* radical, from the base of an old pseudo-bulb, a foot or more long, villous with patent hairs, bearing a few sheathing glabrous *scales*. *Spike* lax, bearing six or more, large, very white *flowers*. *Sepals* and *petals* much spreading, broad-lanceolate, very acute, nearly uniform. *Lip* also very patent, the base united to the whole length of the column, suborbicular in outline, but deeply three-cleft; the side *lobes* oblong, obtuse, waved; the middle *lobe* broad-cuneate, again divided into two divaricating obtuse *lobes*: the *disc* of the labellum is orange-yellow and striated: the *spur* shorter than the lip, filiform, inflexed. *Anther* sunk into the apex of the column, hemispherical, with a broad blunt projecting beak. *Pollen-masses* eight, cohering in fours with a filiform, bipartite *stalk* or *gland*.

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Fig. 1, 2. Anther-case, upper and under side. 3. Pollen-masses :—*all magnified.*



2.

1.

Fitch, del et lith.

F Reeve, imp

# Tab. 4672.

# MALCOLMIA littorea.

## *Sea-shore Malcolmia.*

Nat. Ord. Cruciferæ.—Tetradynamia Siliquosa.

*Gen. Char. Calyx* tetraphyllus, foliolis conniventibus basi æqualibus vel lateralibus gibbis. *Corollæ petala* 4, hypogyna, unguiculata, indivisa. *Stamina* 6, hypogyna, tetradynama, edentula. *Stigmata* 2, acuminata, conniventia. *Siliqua* bivalvis, elongata, teretiuscula, valvis convexis trinerviis, placentarum prominulo, obtuso, septo uninervi. *Semina* plurima, pendula, uniserialia, submarginata, lævia, funiculis liberis filiformibus. *Embryonis* exalbuminosi *cotyledones* planæ, radiculæ adscendenti incumbentes.—Herbæ *annuæ in regionibus Mediterraneis et Asia media indigenæ, erectæ, ramosæ, pube stellata v. setulis rigidis bi-quadrifidis rarius simplicibus vestitæ;* foliis *caulinis sparsis, oblongis, integerrimis, dentatis, lyratis v. sinuato-pinnatifidis;* racemis *terminalibus et lateralibus laxis, aphyllis;* floribus *purpurascentibus v. albis.*

Malcolmia *littorea;* biennis, pube stellata cana, caule multiplici erecto ramoso, foliis lanceolatis integris vel remote sinuato-dentatis sessilibus, pedicellis brevissimis, stylo brevi, stigmate elongato apice obtuso emarginato vel bifido, siliquis erecto-patentibus elongatis teretibus.

Malcolmia littorea. *Br. Hort. Kew. ed.* 2. *v.* 4. *p.* 121. *De Cand. Syst. Veget. v.* 2. *p.* 443. *Prodr. v.* 1. *p.* 187. *Spreng. Syst. Veget. v.* 2. *p.* 898. *Boissier, Voy. Bot. Espagne, p.* 23.

Hesperis littorea. *Lam. Dict. v.* 3. *p.* 322.

Cheiranthus littoreus. *Linn. Sp. Pl. p.* 995.

Leucojum maritimum minus. *Clus. Hist. v.* 1. *p.* 198. *f.* 2.

Of this really beautiful hardy plant, cultivated in our gardens so early as 1683, no good figure has hitherto been given. It is a littoral plant of South Europe. Its northern limit seems to be Nantes, and thence it extends itself along the coasts of Spain and Portugal, and the western shores of the Mediterranean. Desfontaines detected it in Barbary, and Broussonet in Morocco. In our country it is best treated as an annual. In warmer climes it is at least biennial, the lower part of the stems becomes quite woody, and then the branches are more strictly erect, and more

numerous from one point than our figure represents them. Mainly on this account, as it would appear, Boissier makes two varieties, his var. *Broussonetii*, and var. *alyssoides*. Seeds were sent to us by Mr. Wellwitzsch from Portugal, and the plants bear their lovely flowers during the summer and autumn.

Descr. Our annual plants (and they would hardly survive a winter in our climate) have erect, but flexuose, branching *stems*, scarcely a foot high, terete, hoary, as is the whole plant, petals and stamens excepted, with short stellated hairs. *Leaves* lanceolate or linear-lanceolate or more frequently subspathulate, tapering a good deal at the base, but sessile, sometimes sinuate-dentate, more usually quite entire. *Flowers* large for the size of the plant, in lax, terminal, many-flowered *racemes*. *Pedicels* at first very short, at length about equal in length to the calyx. *Calyx* narrow, oblong. *Sepals* linear, obtuse, quite erect, two of them a little gibbous at the base. *Petals* obcordate, clawed, delicate, bright, pink-purple (not *albido-flavi*, as De Candolle describes them), the lamina spreading horizontally (not veiny, like *Malcolmia maritima*, Bot. Mag. t. 166). *Stamens* six: the four longer nearly equalling the pistil; two shorter rather longer than the germen. *Germen* cylindrical, downy. *Style* short. *Stigmas* two, long, linear, glandular within, and at the margin and apex, and united for the whole length of their faces into one, more or less bifid at the point. *Siliqua* two or two and a half inches long, slender, terete (not torulose), flexuose, erecto-patent, terminated by the style and now sharp, withered stigma.

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Fig. 1. Stamens and pistil. 2. Pistil.



# Tab. 4673.

# LILIUM giganteum.

*Gigantic Lily.*

Nat. Ord. Liliaceæ.—Hexandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4561.)

Lilium (Cardiocrinum) *giganteum;* elatum robustum, foliis inferioribus longe petiolatis amplissimis cordato-rotundatis brevi-acuminatis, superioribus sensim minoribus late ovatis minus petiolatis, floribus nutantibus in racemum longum bracteatis dispositis, sepalis obtusis apice patentibus.

Lilium giganteum. *Wall. Tent. Fl. Nep. p.* 21. *t.* 12, 13. (*excl. syn.*) *Rœm. et Sch. Syst. Veg. v.* 7. *p.* 419. *Spreng. Syst. Veg. v.* 4. *p.* 342. *Zuccar. in Sieb. Fl. Jap. v.* 1. *p.* 35 (*in note*). *Kunth, Enum. Plant. p.* 268.

Lilium cordifolium. *Don, Prodr. Fl. Nep. p.* 52. (*excl. syn.*)

The discovery of this Prince of Lilies, we owe, as we do so much of Indian and especially northern Indian botanical novelty, to Dr. Wallich*, who detected it in moist shady places on Sheopore in Nepal. "This majestic Lily," writes Dr. Wallich, "grows sometimes to a size which is quite astonishing; a fruit-bearing specimen of the whole plant, which is destined for the Museum of the Hon. East India Company, measures full ten feet from the base of the stem to its apex. The flowers are proportionably large and delightfully fragrant, not unlike those of the common white Lily." Nor does it degenerate in cultivation; witness the specimen from which our drawing was made, a portion of which was obligingly communicated to us through Dr. Balfour, by the Messrs. Cunningham, Comely Bank Nursery, Edinburgh, in July, 1852, accompanied by a full-length representation made on the spot. These showed the flowering plant to have attained a height of ten feet in one season; the flower portion occupying twenty inches. Such a raceme of flowers, accompanied by leaves measuring ten to twelve inches long and eight inches broad, must have afforded a striking spectacle, and which has only yet been witnessed at the nursery just mentioned, where the plant was raised from seeds

* Who does not, among the many friends of Dr. Wallich, rejoice to learn that this distinguished and most liberal botanist has been recently honoured by his Danish Majesty in being made a Knight Commander of the Order of Dannebrog?

sent by Major Madden some five or six years ago; but it has only now for the first time blossomed in Europe. The bulb was treated in the ordinary way without heat. Baron Hügel found the plant in the Peer Punjäl pass of the Himalaya, leading into Kashmeer; and we believe that Drs. Thomson and Hooker met with it abundantly in other portions of that vast range of hills. The remainder of our account shall be taken from Dr. Balfour's notes, chiefly drawn up from the living plant at Comely Bank.

"Major Madden says the *Lilium giganteum* is common in the damp thick forests of the Himalaya, the provinces of Kamaon, Gurwhal, and Busehur, in all of which he has frequently met with it. It grows in rich black mould, the bulb close to the surface, at from 7500 to 9000 feet above the level of the sea, where it is covered with snow from November to April, or thereabouts. The hollow stems are commonly from six to nine feet high, and are used for musical pipes. The fruit ripens in November and December.

"Descr. *Stem* straight, cylindrical, smooth, gradually attenuated to the apex, nearly ten feet high, five and a half inches in circumference at the base, green with a reddish-purple hue at the upper part. *Leaves* alternate, scattered, the internodes varying in length, petiolate, broadly ovate, cordate, acuminate, shining dark green above, paler below, venation reticulated, having an evident midrib, with the veins coming off from it ending in an intra-marginal vein; lower leaves with long petioles, very large, ten to twelve inches long, eight inches broad, becoming gradually smaller in ascending; upper leaves small, sessile, ovate, acute. *Petioles* of lower leaves twelve to fourteen inches long, thick, broad and somewhat sheathing at the base, lower surface convex, upper with a deep and broad furrow; petioles of upper leaves short. *Bracts* ovate, acute, caducous, leaving a semilunar scar. *Flowers* white, with purple sheaths, greenish below, infundibuliform-campanulate, inclined downwards, twelve on the raceme, fragrant; tube greenish, two inches in circumference at the base, gradually dilating upwards; limb slightly revolute; leaves of the perianth oblong-spathulate, three outer with slight purple streaks inside, three inner rather broader, with a deep purple tinge on the inside, and with a prominent ridge on the outside, sulcated on either side, and two elevated ridges on the inner surface separated by a shallow groove. *Peduncles* round, thick, from a quarter to one inch in length, greenish-purple. *Stamens* and *pistil* included. *Stamens* six, three outer longer; *anther* versatile; *pollen* yellow. *Pistil* shorter than long stamens, *style* ending in a large compressed *stigma*." *Balfour.*

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Fig. 1. Pistil:—*natural size.*



# Tab. 4674.

# TACSONIA sanguinea.

*Blood-coloured Tacsonia.*

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Nat. Ord. Passifloreæ.—Monadelphia Pentandria.

*Gen. Char.* (*Vide supra*, Tab. 4406.)

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Tacsonia (Distephana) *sanguinea;* foliis oblongo-ovatis subtus reticulatim venosis simplicibus cordatisve trilobis lobis oblongo-ovatis marginibus grosse inæqualiter sinuato-lobatis, involucri minuti bracteis lineari-acuminatis serratis basi utrinque glandulis magnis 1–2, sepalis (tubo brevi) petalisque lineari-oblongis acuminatis, corona duplici, interiore membranacea apice multifida, filamentis exterioribus erectis.

Passiflora sanguinea. *Smith, in Rees Cycl. n.* 45.

Tacsonia sanguinea. *De Cand. Prodr. v.* 3. *p.* 334.

Passiflora quadriglandulosa. *Meyer, Essequib. p.* 226.

Tacsonia quadriglandulosa. *De Cand. Prodr. v.* 3. *p.* 335.

Tacsonia quadridentata? *et* T. pubescens? *De Cand. Prodr. l. c.*

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In July of the present year (1852) we had the pleasure to receive fine flowering specimens of this *Tacsonia* from Mr. Hugh Low, of the Clapton Nursery, to whom the plant had been sent, from Trinidad, by Henry Rye, Esq., under the appropriate but MS. name of *Passiflora diversifolia.* It is however unquestionably the *Passiflora sanguinea* of Sir J. E. Smith, in Rees's Cyclopædia, above quoted, and only by that description known to De Candolle, who was induced to refer the species, in its present genus, to the section *Eutacsonia;* and thus, apart from three supposed West Indian species, *T. quadriglandulosa*, *T. quadridentata*, and *T. pubescens*, placed in the section "Distephanæ dubiæ." These three, though very briefly characterized by De Candolle, one from Guiana (whence we have also received this species), and the two others from the "West Indies," derived from the Banksian Herbarium, and very probably from Trinidad, appear to us to be referable to one and the same plant. The very va-

riable nature of the leaves on the same or on different individuals will easily account for their being supposed distinct. We have copious specimens in our Herbarium, gathered in Trinidad by the late Mr. Lockhart. Sir James Smith's specimens were received from Smeathmann.

Mr. Low, in his letter, observes that the species is a free flowerer, and will evidently make a first-rate plant for a conservatory, as it does not seem to require much heat, and is easy of cultivation.

Descr. A climber, with terete *branches*, and *leaves* which are extremely variable on the same or on different plants, sometimes ovate or oblongo-ovate, acute, simple; sometimes cordate and deeply three-lobed, with the lobes ovate, acute; the margins everywhere remarkable for being more or less sinuous, and cut into large but unequal teeth, penninerved, the underside strongly reticulated with prominent nerves, sometimes downy and pale green, whereas the upper side is generally glabrous and dark green. *Petioles* about half an inch long, glandular at the base, and there are sometimes glands in the sinuosities of the leaves. *Peduncle* solitary, single-flowered, longer than the petiole, furnished below the apex with a small three-leaved downy *involucre*: the leaflets from a broad base, linear-subulate, serrated, erect, each having one or two large orbicular *glands* on either side at the base, and a gland within the axil. *Flower* large: *sepals* five, oblong-linear, acuminate, spreading, having a long soft subulate awn a little below the apex; externally the sepals are greenish rose-colour, within uniform rose-red: they all unite below so as to form a five-furrowed, rather short, greenish tube, very obtuse at the base. *Petals* five, as long, and of the same shape, as the sepals, equally spreading and deep rose-red on both sides. *Crown* or *nectary* double, short: inner consisting of a white membrane, with many subulate, erect, red rays; outer of a circular row of numerous erect filaments, white, banded and tipped with red: some lesser filaments, and very short, are found between the outer and inner corona. *Column* three or four times as long as the crown, greenish, spotted with red, as are the short recurved filaments. *Anthers* green. *Ovary* oval. *Styles* clavate, deep red; *stigmas* green.

Fig. 1. Leaflet of an involucre:—*magnified*.

# Tab. 4675.

# CENTROSOLENIA BRACTESCENS.

*Bractescent Centrosolenia.*

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Nat. Ord. Gesneraceæ.—Didynamia Angiospermia.

*Gen. Char.* (*Vide supra*, Tab. 4552.)

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Centrosolenia *bractescens;* elata, caule crasso succulento, foliis subæqualibus amplis ovatis acuminatis grosse inæqualiter serratis inferne longe attenuatis basi perfoliatis, pedunculo brevi axillari solitario multifloro, floribus aggregatis bracteatis, bracteis 2 exterioribus amplissimis orbiculatis concavis brevi-acuminatis serratis, corolla alba limbi lobis integerrimis.

Nautilocalyx hastatus. *Hort.*

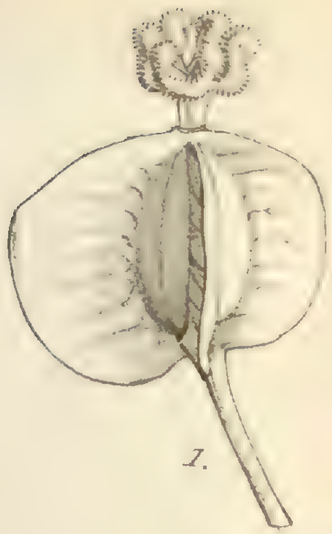
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This very remarkable plant was received at the Royal Gardens of Kew, from Mr. Linden, under the name of *Nautilocalyx hastatus*. Such a name we can find nowhere published, and we cannot but consider it inaccurate, inasmuch as there is nothing about the calyx in any way representing a *Nautilus;* and, if meant to refer to the two outer bracteas (and not the calyx), we venture to consider they represent a bivalve shell, some kind of *Pecten* or *Venus*, rather than a *Nautilus*. We only adopt the opinion of Mr. Bentham in considering the genus to which the plant belongs not distinct from his *Centrosolenia* (see our two species, figured at Tab. 4552 and 4611 of the present Magazine). From those, and indeed from every known species, the present is abundantly distinguished by the large size of the leaves, and, in proportion, the still larger size and peculiar form of the external bracteas, which enclose the axillary clusters of leaves. It is a stove-plant, a free flowerer, and its blossoms continue to appear through the entire summer months. We have no information respecting its native country; probably it is New Grenada or Venezuela

Descr. *Stem* stout, herbaceous, erect, simple, two feet high, the upper part clothed, as is most of the younger portion of the plant, with deciduous silky down. *Leaves* opposite, very large (almost a foot long), nearly equal, ovate, acuminate, coarsely

serrated, penninerved, beneath reticulated and the nerves prominent, below tapering very much, the base of the two opposite leaves unite and surround the stem, or, in other words, the leaves are decurrent upon the petiole so as to form a very broad wing to the extremely thickened rachis. In the axils of the leaves there appears on a short *peduncle* a pair of very large, vertical, nearly orbicular, concave, sharply, almost cuspidately acuminated, purple-green, reticulated *bracteus*, two inches across, at first closed like the two valves of a shell, then partially expanded for the emission of the several flowers, within which they expand, in succession, and are themselves bracteated with ovate or lanceolate acuminated and serrated *bracteoles*. Each *flower*, when fully open, is nearly as long as the external bracteas, and shortly pedicellate. *Calyx* a little shorter than the tube of the corolla, white below, red-purple above, and reticulated with white, deeply cut into five segments, of which four are lanceolate, serrated, finely acuminated, the fifth free to the very base, and bent down, as it were, below, by the prolongation of the spur, and this is subulate, very narrow. *Corolla* large, white, the tube dilated upwards, below on one side extended into a short, blunt *spur;* the limb spreading, of five nearly equal, entire, rounded segments or lobes. *Stamens* four, perfect, included within the tube of the corolla; *filaments* subulate, didynamous, curved over the pistil. *Anther* subglobose. *Ovary* ovate, slightly pubescent, with a large fleshy hypogynous *gland* on one side. *Style* thickened, a little curved. *Stigma* slightly dilated.

Fig. 1. Flower :—*nat. size.* 2. Stamens and pistil. 3. Pistil :—*slightly magnified.*



1.

Fitch, del. et lith

# Tab. 4676.

# BEGONIA HERNANDIÆFOLIA.

*Hernandia-leaved Begonia.*

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

*Gen. Char.* (*Vide supra*, Tab. 4172.)

Begonia *hernandiæfolia;* acaulis, foliis omnibus radicalibus aggregatis longe petiolatis suboblique rotundato-ovatis breviter acuminatis glanduloso-serratis coriaceis peltatis concavis subtus atro-purpureis, scapis folio longioribus apice dichotome corymbosis, pedicellis nutantibus, floribus rubris: *masc.* 4-sepalis, sepalis 2 minoribus; *fœm.* 3-sepalis sepalo unico minimo, fructualis rotundatis, ala unica duplo 3-plo majore.

Received at the Royal Gardens of Kew from seeds sent from Veraguas by Mr. Seemann. I have failed in finding the description of any species that will tally with it. Much of the character, indeed, of *B. peltata,* Haskrl., as given in the fifth volume of Walpers' Repertorium, p. 766, well corresponds with this; but that is placed in a group called "*Repentes,*" is said to be "caulescent," and is a Java plant. Further, the same species is described in the second volume of the Repertorium, p. 210, as having the leaves tomentose: whereas our plant is not caulescent, nor creeping, and has glabrous foliage. It is indeed a most lovely species, with singularly shaped, very thick, concave and peltate leaves, deep blood-colour beneath, and the copious petioles, peduncles, and flowers of a full rose-red. It flowers readily in the stove during the summer months.

Descr. Stemless. From the top of the root spring numerous bright red terete *petioles*, stipuled at the base, two to four inches, or rather more, long, which are inserted underneath, and at nearly an inch distance from the base of the very thick, between fleshy and coriaceous, subrotundo-ovate, acuminated, rather oblique, concave *leaves*, indistinctly glanduloso-serrated at the margin,

quite glabrous, dark green above, with a pale spot at the insertion of the petiole, from which a few indistinct nerves radiate, deep blood-red beneath, with the nerves slightly prominent. *Scapes* radical, longer than the petiole, about as thick and of the same colour as it, bearing a dichotomous *corymb* of drooping, deep rose-red *flowers;* at the setting-on of the branches a pair of opposite small stipules are present. Each fork generally bears one male and one female *flower*. *Male flower* of four spreading *sepals*, two (opposite) larger and orbicular, the two smaller oblong-spathulate. *Stamens* a small head of many nearly sessile oval anthers. *Female flower* of three *sepals*, two large, and a small, oblong-spathulate one. The *fruit* (nearly mature) is bright red, triangular, obovate, with a narrow rounded wing at two of the angles, and a much broader rounded one at the third angle. *Style* short. *Stigma* sinuato-lobate.

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Fig. 1. Fruit :—*magnified.*

1.
2.
3.

# Tab. 4677.

# GOETHEA strictiflora.

## *Upright-flowering Goethea.*

Nat. Ord. Malvaceæ. Monadelphia Polyandria.

*Gen. Char. Calyx* campanulatus, abbreviatus, 5-fidus, *involucello* amplo vesicario 4–6-partito cinctus et obvallatus. *Petala* 5, basi subconcreta, æstivatione spiraliter convoluta. *Filamenta* numerosa, in columnam longam coalita. *Antheræ* (reniformes) uniloculares. *Stylus* elongatus, in *stigmata* 8–10 apice fissus. *Cocca* 5, coriacea, 1-sperma.—Arbores *aut* frutices, foliis *glabriusculis coriaceis*, petiolis *barbatis*, stipulis *angustis*, floribus *speciosis axillaribus in pedunculis unifloris* (*sæpe*) *nutantibus*, involucellis *coloratis reticulatis vesicariis*. *De Cand.*

Goethea *strictiflora;* foliis ovatis acuminatis versus apicem grosse sinuato-serratis, floribus axillaribus aggregatis erectis brevi-pedunculatis, involucro tetraphyllo, foliolis cordatis.

A very remarkable-looking plant, native of Brazil, sent to us by Messrs. Rollison, Tooting, and by Mr. Henderson, St. John's Wood, under the name of *Goethea cauliflora* of Nees von Esenbeck. That it belongs to the genus *Goethea* (so named in honour of the great German poet, Goethe), as defined by Nees von Esenbeck and Martius, is clear; and it is generally known that this genus is referred by Endlicher and others to *Pavonia*, in true *Malvaceæ*, and not to *Byttneriaceæ*, where De Candolle has placed *Goethea*, on account of the supposed bilocular structure of the cells of the anthers. Whether a distinct genus or not, it is quite certain that the present plant can neither be the *G. cauliflora* of Nees and Martius, nor his *G. semperflorens:* the latter has scattered terminal long-pedicelled flowers, and six bracts to the involucre; while the former has oblong entire leaves, and drooping (quite pendent) axillary or lateral flowers. Our plant, it will be seen, has the leaves broad-ovate and sinuato-dentate, and the flowers invariably erect from the axils of the leaves. The flowers are very inconspicuous, and quite concealed by the involucre,

whose beautiful red-veined bracts, looking like a calyx, persist long after the blossoms have passed.

Descr. The plant before us is one and a half foot high, at present unbranched, woody below, more herbaceous above. *Leaves* alternate, large, petiolate, ovate, often broadly so, acuminate, penninerved (with three principal nerves from near the base), the upper half sinuato-dentate at the margin. *Peduncles* short, aggregated in the axils of the leaves (and often remaining after the leaves are fallen, above the scars), scarcely half an inch long. *Involucre* of four, erect, pale yellowish-white, cordate *bracteas*, striated and veined with red, including a single *flower*, whose stigmas alone are sometimes protruded beyond the involucre. *Calyx* nearly white, or greenish, cut into five, erecto-connivent, acuminated lobes. *Corolla* of five, obcordate, veiny, small *petals*, which are united by their base to the cylindrical tube of the filaments of the anthers, shorter than the calyx. *Anthers* reniform, one-celled, exserted beyond the calyx, as is the free portion of the filaments. *Ovary* subglobose, five-furrowed. *Style* as long as the tube of the anthers, then separating into ten branches, each bearing a capitate *stigma*.

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Fig. 1. Flower. 2. Two of the petals united with the tube of the anthers. 3. Pistil:—*magnified.*

# Tab. 4678.

# RUBUS BIFLORUS.

## *Twin-flowering Raspberry.*

Nat. Ord. Rosaceæ.—Icosandria Polygynia.

*Gen. Char.* *Calyx* fundo planiusculus, 5-fidus, nudus. *Petala* 5 et *Stamina* numerosa calyci inserta. *Carpella* plurima in toro manifeste protuberante non carnoso capitata, stylo sublaterali superata, in drupellas carnosas conversa. *Semen* inversum.—Frutices, *rarius* Herbæ *perennes*. Caules *biennes*, *sæpe radicantes*, *nunc inermes*, *nunc sæpius aculeati*. Folia *petiolata*, *nunc pinnata palmatave*, pinnis *sæpe petiolulatis*, *nunc simplicia lobata indivisave*. Fructus *edules*. *De Cand.*

Rubus *biflorus*; caulibus erectis elatis insigniter albo-pulverulentis sparse aculeatis aculeis validis curvatis, foliis supra glabriusculis subtus pubescenti-tomentosis simplicibus trilobis vel ternatis, foliolis ovatis inciso-serratis lateralibus sessilibus terminali latiore petiolulato rarius foliolis 5 pinnatis, pedunculis nutantibus aggregatis (non raro geminatis) uni-bi-tri-floris, lobis calycinis latis acuminatis petalis subbrevioribus, fructu aurantiaco.

Rubus biflorus. *Buchanan, ex Smith in Rees' Cyclop.* *De Cand. Prod. p.* 558. *Spreng. Syst. Veget. v.* 2. *p.* 527.

Rubus pedunculosus. *Don, Prodr. Fl. Nep. p.* 234?

Messrs. Veitch of Exeter received this really handsome Bramble from Nepaul, and cultivated it for some time under the name of *R. leucodermis*, a name it well deserves, from the pure white of the stems of the plant, looking exactly as if they had been white-washed. Closely examined, the cuticle is found covered by an extremely minute, perfectly white, pulverulent substance. The name however of *leucodermis* is given by Mr. Douglas to a North-west American species, and adopted by Messrs. Torrey and Gray in their 'Flora of North America,' which species we have been ourselves led to consider a variety of *Rubus occidentalis* of Linnæus. Our plant is identical with a Nepaulese and Himalayan species in our Herbarium, which we believe to be the *R. biflorus* of Dr. Buchanan (Hamilton), and probably the *R. pedunculosus* of Don. It is quite hardy and ornamental, and

very striking from its tall very white stems, and its copious white flowers produced in May and June, which are succeeded by the good-sized and well-flavoured orange or rather deep amber-coloured fruit in the early autumn. We feel sure that this handsome and agreeable fruit would be worth cultivating for the table.

Descr. The *stems* spring from the ground in clusters or fascicles, like our common Raspberry (to which group of *Rubus* it belongs), but attains a height of ten to twelve feet, erect, branched with many small slender side-branches, the epidermis everywhere clothed with a very white pulverulent coat (easily removed by passing the hand over it), aculeated; the *aculei* scattered, uniform in shape, all from a broad base subulate, decurved; those of the stem stout and strong, those of the branchlets small and slender. *Leaves* extremely variable, even on the same plant, always green and subglabrous, downy and white beneath, in shape sometimes cordate, unequally and irregularly lobed, at other times regularly three-lobed; sometimes compound and ternate, the lateral lobes generally narrow, ovate, and sessile, intermediate or terminal one broader and larger and petiolulate, sometimes, but more rarely, pinnated with five leaflets, all inciso-serrate, pinnately and reticulately veined. *Peduncles* about two inches long, sometimes binate, more generally fascicled at the ends of the small lateral almost herbaceous branchlets, drooping, simple and bearing one, or branched and bearing two or three (rarely more) white *flowers*. *Calyx* subhemispherical, cut into five broad acuminated downy lobes. *Petals* obcordate, spreading, close-placed, and imbricating with their edges. *Stamens* small, forming a dense ring round the ovaries. *Fruit* as large as a Raspberry, but deep amber-colour; when young, almost enclosed in the erect lobes of the persistent calyx; afterwards, the calyx spreads, and the globose fruit is wholly exposed to view.

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Fig. Fruits:—*nat. size.*



# Tab. 4679.

# Fortune's Double Yellow,

## *or Wang-jang-ve* Rose.

Fortune's Double Yellow Rose. *Lindl. in Journ. of Hort. Soc. Lond.* 1851. *v.* 6. *p.* 52.

If it is desirable to give a botanical specific name to a hybrid plant at all, it can only be done, with any kind of propriety, when we are acquainted with the double origin of the plant in question, viz. both parents. Of the pedigree of the Rose here figured we know nothing, save that it comes from China; and, as Dr. Lindley has observed, it is fruitless to inquire. As an ornamental Rose for the garden, we should have thought there could have been but one opinion among those who have seen the flowering plant (the delicacy of the petals cannot be imitated by art), and *that* is entirely in its favour. But it has been spoken of unfavourably by some; and this has been accounted for by Messrs. Standish and Noble, to whom we are indebted for the specimens here published, and whose remarks, together with those of Mr. Fortune, who introduced the plant from China to our gardens, shall occupy the remainder of our space.

"Seldom," write Messrs. Standish and Noble, in June of the present year, "has a really beautiful flower remained so long comparatively unknown as this. Few persons have seen a blossom; and those who have not, believe it to be worthless. In fact there exists a deeply rooted prejudice against the plant, caused, no doubt, by the very unfavourable report circulated when it bloomed the first time in this country. Yet nothing can be more beautiful as a flower, nor can anything exceed it in delicacy of tint. Imagine a gamboge-yellow ground, over which is thrown a tint of crimson lake, and you obtain an idea of its colour. The centre petals have generally a predominance of lake, and the outer ones are more strongly marked; but there is a beautiful clearness about them, which can only be appreciated by examining a flower. Apart from the prejudice which exists against the plant, many persons have spoken derogatively of

it, from having failed to cultivate it successfully; their plants producing but few flowers, and those indifferent both in size and colour. This has arisen from an improper mode of treatment. If pruned in the manner usually adopted for ordinary standard Roses, no flowers will be obtained, as they are produced from the wood of the preceding year, in the same manner as those of the *Persian Yellow* and *Banksian Roses*. Therefore, whether grown as a standard or trained to a wall, the shoots should only be thinned,—to shorten them is to destroy the flowers. We have at the time of writing this (June 28) some standards, from three to four feet through the heads, covered with blossoms; and more beautiful objects can scarcely be imagined. We wish all who are prejudiced against the plant could see them. Again, it has been said to be tender; but we have never seen it injured in the least, even during the most severe weather. It is one of the most rapid-growing roses, and well adapted for a wall or pillar."

Mr. Fortune tells us, "The Rose you inquire about is well known to me, and was discovered in the garden of a rich Mandarin at Ningpo. It completely covered an old wall in the garden, and was in full bloom at the time of my visit: masses of glowing yellowish and salmon-coloured flowers hung down in the greatest profusion, and produced a most striking effect. It is called by the Chinese the *Wang-jang-ve*, or *Yellow Rose*. They vary, however, a good deal in colour; a circumstance which, in my opinion, adds not a little to the beauty and character of the plant. I fancy it is quite distinct from any other known variety, and certainly different from any China kind. It is admirably adapted for covering walls; and if planted in rich soil, and allowed to grow to its full size, nothing can produce a finer effect in our gardens. It was sent home to the Horticultural Society in 1845, and noticed by me in the Journal of the Society, vol. i. p. 218, and again in my 'Journey to the Tea Countries,' p. 318. No doubt the *Wang-jang-ve*, now that it has been properly treated by Messrs. Standish and Noble, will soon take its place as a favourite amongst our climbing roses."

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Fig. 1. Calyx and ovary:—*slightly magnified.*



# Tab. 4680.

# MONOCERA GRANDIFLORA.

## *Large-flowered Monocera.*

Nat. Ord. Elæocarpeæ.—Polyandria Monogynia.

*Gen. Char. Calyx* pentaphyllus, *foliolis* lanceolatis æstivatione valvatis. *Corollæ petala* 5, hypogyna, æstivatione imbricata, cuneata, tri-quinqueloba, lobis laciniatis vel subintegerrimis. *Stamina* 25–80, disco hypogyno glanduloso inserta; *filamenta* brevia, subulata; *antheræ* erectæ, longe lineares, *loculis* introrsum adnatis appositis biloculares, apice rima transversa bivalves, valvula antica mutica, postica connectivo dorsali excurrente cuspidata. *Ovarium* sessile, basi disco cinctum, bi-quinqueloculare. *Ovula* in loculis 2 v. plura, pendula, anatropa. *Stylus* subulatus; *stigma* simplex. *Drupa* monopyrena; *nuce* lævi v. tuberculata, uni- bi- rarius quinqueloculari. *Semina* in loculis solitaria, inversa. *Embryo* in axi albuminis carnosi orthotropus, ejusdem fere longitudine; *cotyledonibus* planis, oblongis; *radicula* cotyledonibus breviore, supera.—Arbores *Asiæ tropicæ et Novæ Hollandiæ;* foliis *alternis, approximatis, lanceolato- v. cuneato-oblongis, integerrimis v. serratis*, petiolis *basi et apice tumidis*, stipulis *deciduis*, racemis *axillaribus, folio brevioribus*, petalis *sæpissime extus sericeis. Endl.*

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Monocera *grandiflora;* foliis elliptico-lanceolatis basi attenuatis apice obtusiusculis remote crenato-serratis integerrimisve, racemis axillaribus paucifloris pedicellis elongatis gracilibus petiolo longioribus.

Elæocarpus grandiflora. *Smith in Rees' Cycl. n.* 5.

Monocera lanceolata. *Hassk. Cat. Pl. Hort. Bot. Bogor. p.* 208.

Elæocarpus lanceolata. *Blume, Bijdr. p.* 119. *Spreng. Syst. Veget. Cur. Post. p.* 189.

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A native of Java, long cultivated in the stove of the Royal Gardens of Kew, as an unknown plant, with the habit of *Terminalia*. In the summer of 1852 the handsome flowers appeared. It is clearly the plant "collected by the late Sir G. L. Staunton, Bart., who discovered it in his voyage to China, but in what country is not mentioned," and taken up by Sir James Smith as *Elæocarpus grandiflora*, in Rees' Cyclopædia, where the author has faithfully described the anthers as those of a *Monocera*. This name has been strangely overlooked, as far as I can find, by all succeeding authors; Blume, considering the plant a new species, described it under the name of *Elæo-*

*carpus lanceolata.* We possess Herbarium specimens from Count Hoffmansegg, from Mr. Thomas Lobb (n. 19), and from Professor De Vriese, all gathered in Java, yet Blume only speaks of it there as "in hortis frequenter colitur." These specimens however show that the plants vary in the leaves being crenato-serrated or entire, and in the length of the petiole, from one-fourth of an inch to an inch long. The bright red of the calyx and pedicels, the cream-coloured fringed petals, and large flowers, in conjunction with the evergreen foliage, give it a handsome appearance.

Descr. A *shrub*, with us seven feet high, much branched; the *leaves* a good deal clustered at the apices of the branches, from three to nearly six inches long, including the petiole, broad lanceolate, tapering into a footstalk from one-fourth to one-half an inch long, the apex generally obtuse, the margin entire, or usually more or less crenato-serrated or sinuated. *Racemes* of few, two, four, or five, flowers, generally one or two among the terminal clusters of leaves, drooping. *Rachis* and very long slender *pedicels* red, the latter secund, much longer than the petioles, and thickened upwards. *Calyx* of five, narrow, almost linear-lanceolate, spreading *sepals*, quite red externally, white within. *Petals* five, spreading, white or pale yellow, cuneate, more or less silky, especially externally, the apex laciniated. *Stamens* very numerous, pubescenti-scabrous. *Filament* short. *Anther* oblong, tapering into a long subulate beak, longer than the anther, the two cells opening at the base of the beak, the opening closed by a small valve. *Ovary* ovate, pubescent, seated in a very large gland or fleshy disc, tapering into a slender. rather long *style*. *Stigma* a mere point.

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Fig. 1. Stamen. 2. Pistil and hypogynous gland :—*magnified*.

# Tab. 4681.

# MALVA involucrata.

## *Involucrated Mallow.*

Nat. Ord. Malvaceæ.—Monadelphia Polyandria.

*Gen. Char. Calyx* 5-partitus v. 5-fidus, involucro 3-phyllo, nunc 1–5–6-phyllo, deciduo, rarius nudo, foliolis oblongis setaceisve. *Carpella* plurima, monosperma, in orbem circa axin disposita. *Radicula* infera.

Malva *involucrata;* hirsuta, caulibus elongatis procumbentibus ramosis, foliis profunde 3-partitis lobis 3-multifidis lineari-lanceolatis submucronato-acutis, stipulis magnis late ovatis acuminatis, pedunculis erectis solitariis axillaribus unifloris folio longioribus, involucri foliolis 3 lineari-lanceolatis calyce $\frac{2}{3}$ brevioribus, "carpellis numerosis hirsutis lævibus."

Malva involucrata. *Torr. et Gr. Fl. N. Am. v.* 1. *p.* 226.

Nuttallia involucrata. *Nutt. ex Torr. in Am. Lyc. New York, v.* 2. *p.* 172.

Certain Malvaceous plants of North America, with a somewhat peculiar aspect, vacillating in habit between *Sida* and *Malva*, and varying in the presence or absence or deciduous nature of the involucre, were referred by Mr. Nuttall to a new genus, *Callirhoe*, by Mr. Dick called *Nuttallia* (see Bot. Mag. t. 2612 and 3287). This genus has been, as it were, by general consent abandoned, the species transferred to *Malva*, and a new and more firmly established genus given to the distinguished American Botanist in *Rosaceæ**. Our present plant would have been a *Nuttallia* of Dick, and hence was given the name *involucrata*, to distinguish it from some *Nuttallias* which were destitute of this organ, a name not very appropriate among true *Malvæ*. The plant was first detected in the valley of the Loup Fork of the Platte, by Dr. James, and what is described by Drs. Torrey and Gray as "var. *β*, *linariloba*, with the segments of the leaves divided into three to five narrowly linear lobes," was found in Texas by Mr. Drummond. Our present plant, of which

* See *Nuttallia cerasiformis*, Torr. et Gr., in Hook. and Arn. Bot. of Beechey's Voyage, p. 387, t. 82.

November 1st, 1852.

the seeds were sent to Kew by Dr. Engelmann, is also from Texas, and has the leaves as much divided as that just mentioned, but the segments can hardly be called "narrow linear." It appears to be a hardy perennial, flowering in July.

Descr. From a central *root* several *branches*, eighteen inches to two feet long, radiate, lying upon the ground, the extremities assurgent, hairy, as is more or less every part of the plant; hairs of the stems and branches and petioles and calyces patent. *Leaves* all on long *petioles*, especially those from near the root, cordate in outline, deeply 3–5-fid; of the upper ones the lobes are subtrifid, the lateral ones on the lower leaves are subpedate; the lowest, and especially the radical ones, are multifid, the segments broad linear or linear-lanceolate, acute and submucronulate with a soft point. *Peduncles* longer than the leaves, solitary, erect, numerous, bearing a single large showy flower. *Involucre* of three linear-lancolate spreading green leaflets, about two-thirds the length of the calyx. *Calyx* very hairy, divided nearly to the base into five, lanceolate, acuminate, spreading *sepals*. *Petals* five, broad-cuneate, quite truncated at the apex, and erose, longer than the calyx, deep red-purple, with a cream-coloured large spot at the claw, forming a yellowish-white circle or disc to the flower. *Column* of *stamens* rather short, and, as well as the capitate *anthers*, white. *Style* as long as the staminal tube: *stigmas* numerous, filiform-subulate, long, spreading. *Carpels* (immature) "lunate, pointless."

4682.



# Tab. 4682.

# SOBRALIA CHLORANTHA.

## *Yellow-flowered Sobralia.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4446.)

Sobralia *chlorantha;* epiphyta? caule brevi, foliis paucis terminalibus elliptico-ovatis obtusiusculis subcoriaceis remote striatis longe vaginatis inferiore majore superiore bracteæformi, flore solitario terminali sessili luteo, petalis sepalisque æqualibus conniventibus lanceolatis, labello sepalis parum longiore obovato disco striato margine undulato intus disco pone basin elevato, columnæ apice lobis lateralibus brevibus.

Received in a flowering state from the stove of Messrs. Lucombe, Pince, and Co., in June, 1852. It was sent to them by Mr. Yates, from Para, in Brazil. The flowers are in general structure like those of *Sobralia*, but of a yellow colour, and with foliage more like that of some *Cattleya*, thick and leathery. Pœppig and Endlicher have a genus *Cyathoglottis* (Nov. Gen. et Sp. Plant., etc., p. 55), which they distinguish from *Sobralia* by very slight characters, adding "*Sobraliæ* tamen proxime affine videtur," and which has yellow or white flowers: but the anther should be terminal, not, as here, attached to the middle lobe of a trifid apex to the column. In our plant, however, the lobes are shorter than in the red-flowered *Sobralias*, and the sepals as well as the petals are connivent and united for some length at the base. Whether the two genera be distinct or not, our species by no means accords either with *Cyathoglottis crocea* or *C. candida*, the only two described by Endlicher and Pœppig.

Descr. With the *root* and base of the *stem* we are unacquainted. The portion sent to us is scarcely a span long including the leaves, and with no appearance of pseudo-bulb. The *stem* is about as thick as a goose-quill, nearly terete, covered for the most part with the long rather compressed sheathing bases of the leaves. *Leaves* two or three, very unequal in size; the lowest of them half a foot long, the uppermost from one to

two inches, resembling a *bractea*, all of them dark full green, oblong or elliptical-ovate, rather acute, subcoriaceous, fleshy, the margin a little recurved, the surface marked with a few, distant, parallel, longitudinal striæ. In a sterile plant sent us, the leaves are more nearly equal and more oblong. The *flower* is large, terminal, sessile, curved, of a uniform pale sulphur-coloured yellow. *Ovary* clavate, sessile, rising a little above the sheath of the upper or bracteal leaf. *Sepals* four inches long, erecto-connivent, acuminate, united for some little way above their base. *Petals* uniform with the sepals and of the same length, erecto-connivent. *Lip* erect, for the greater part of its length enclosed within the sepals and petals, large, longer than the perianth, broadly obovate, retuse, clawed at the base, the apex curved back and much waved: the disc faintly striated, with a slight elevation where the claw is set on, and below that two oblong, small, incurved scales or portions of the margin. *Column* clavate, curved, about two-thirds the length of the flower, yellow, deeper-coloured and plain in front; the apex obscurely trifid, the lobes, especially the latter ones, short, obtuse; the *anther-case* hemispherical, imbedded, as it were, within the lobes, and attached to the intermediate one.

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Fig. 1. Column and ovary :—*nat. size*. 2. Pollen-masses :—*magnified*.

# Tab. 4683.

# BEGONIA xanthina.

*Yellow-flowered Begonia, or Elephant's Ear.*

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

*Gen. Char.* (*Vide supra*, Tab. 4172.)

Begonia *xanthina;* acaulis, rhizomate brevi crasso subtus radicante, foliis amplis oblique cordato-ovatis brevi-acuminatis sinuatis denticulatis subtus discoloribus (rubris), petiolis aggregatis crassis folium subæquantibus rubris stipulatis crinitis, setis patentibus inferioribus reflexis, scapo petiolis duplo longioribus, floribus nutantibus corymbosis flavis, masculis tetrasepalis, sepalis 3 oblongo-cuneatis unico majore rotundato magis concavo, fœmineis 3-plo minoribus hexasepalis, sepalis æqualibus ovali-rotundatis, fructus alis duabus brevibus, unica horizontaliter elongata striata.

A very beautiful new *Begonia,* cultivated by Mr. Nuttall in his stove at Rainhill, near Preston, Lincolnshire, where it was raised from roots sent in 1850 from Boutan, by his nephew, Mr. Booth. It is remarkable for the large, full, almost golden-yellow flowers, tinged with red at the back, which contrast well with the ample foliage of a deep glossy green above, and with the fine red of the petioles, peduncles (shaggy, with scale-like hairs), and underside of the leaf. It flowered in July, 1852.

Descr. *Root* a short, thick, horizontal, fleshy *rhizoma,* shaggy with scaly hairs at the setting on of the petioles, and bearing fibrous *radicles* below. *Stem* none. *Leaves* ample, six inches to a span or more long, obliquely (inequilaterally) cordato-ovate, shortly acuminated, more or less sinuated, the margin denticulated, subciliate, penninerved and reticulately veined, of a deep full glossy green and glabrous above, beneath red, with the nerves prominent, the chief ones and costa hispid. *Petioles* thick, fleshy, terete, bright red, about a span long, clustered from the apex of the rhizoma, and there having large, ovate, submembranaceous, coloured *stipules;* their peduncles are crinite, with

shaggy patent hairs, almost scaly and reflexed below. *Peduncles* twice as long as the petiole, and resembling it, but glabrous above, bearing a many-flowered *corymb* at the extremity. *Flowers* deep full yellow, drooping, often springing three from one point, in which case two are male flowers, and one is female. *Male flower* much the largest, of four spreading *sepals*, of which three are oblong-obovate, and the fourth rotundate, larger and more concave, tinged with red at the back. *Stamens* very numerous, forming a compact, globose, yellow head. *Female flower* small, of six nearly orbicular, concave, erect *petals*, tinged with red at the back. *Fruit* greenish, tinged with red, three-winged, two of the wings short and equal, the third is remarkably elongated horizontally, into a sort of broad blunt beak, and is striated.

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Fig. 1. Fruit:—*magnified.*



# Tab. 4684.

# HOYA FRATERNA.

## *Thick-leaved Hoya.*

Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

*Gen. Char.* (*Vide supra*, Tab. 4347.)

Hoya (Physostemma) *fraterna;* foliis amplis ellipticis crassissime coriaceis acutis basi subcordatis et calloso-glandulosis obscure remote penninerviis margine recurvis, petiolo costaque subtus præcipue crassis, pedunculo folio 3–4-plo breviore, umbella multiflora compacta, sepalis ovalibus obtusis concavis, corollæ rotatæ lobis deltoideis patenti-recurvis sericeo-velutinis, coronæ stamineæ foliolis brevi-ovatis apice recto obtuso.

Hoya fraterna. *Blume, Mus. Bot. Lugd. Bat. p.* 44.

A very fine new and very distinct species of *Hoya*, first detected in Java by Blume and since by Mr. Thomas Lobb, and sent by him to his employer Mr. Veitch, in whose stove at Exeter it has grown very vigorously and yielded its very handsome flowers during a great part of the summer and autumn. Some of the leaves measure a foot in length: our coloured figure is taken from a portion of the plant yielding smaller foliage; but these leaves are remarkable no less for their great size than they are for their firmness and thickness, and the very indistinct remote pinnated nerves, scarcely seen except when the leaf is held between the eye and the light, or when the leaves are dried for the herbarium; then the shrinking of the parenchyma brings the veins more distinctly into view, and shows them to be pinnated, anastomosing, and slender. The petioles and costa beneath are peculiarly thick. The upper side of the corolla, disc excepted, is downy, or between silky and velvety, and of a pale yellowish buff-colour, but five stains or spots are seen radiating from the centre towards the sinuses, which are always wet and clammy, which clamminess appears to be due to a flow of honey from beneath each of the leaves of the crown or nectary, and give a rich brown tone of colour to the whole umbel of flowers. It was named *fraterna* by Blume on

account of its affinity to *H. coriacea*, from which it is however abundantly distinct, as will be seen by a reference to the latter plant figured at our Tab. 4518.

Descr. A *climber* with terete *stems* and *branches*, rooting near the insertion of the petioles, bearing opposite *leaves*, on rather short but very thick petioles; varying from six inches to a foot in length, singularly thick, and firmly fleshy, subcoriaceous, elliptical, very glabrous and even, the margins recurved, the apex rather acute, the base emarginate or subcordate, dark green and glossy above, pale and opake beneath, where the midrib is very broad and prominent; lateral veins scarcely at all visible except the leaf be held between the eye and the light, when they are seen to be pinnated, distant, slender, anastomosing towards the margin. *Peduncle* much shorter than the leaves, moderately stout, thickened at the base, bearing at the apex a dense *umbel* of rather large, brownish-red *flowers*. *Sepals* five, oval, concave. *Corolla* rotate, pale buff, with five red-brown blotches, five-lobed, the lobes triangular, silky, reflexed. *Leaflets* of the corona pale buff, rotundato-ovate, thick, fleshy, concave above with a blood-red spot at the base, grooved beneath. *Ovaries* two, oblong.

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Fig. 1. Calyx and ovaries. 2. Flower:—*magnified.*



# Tab. 4685.

# HELICONIA PULVERULENTA.

## *Powdery Heliconia.*

Nat. Ord. Musaceæ.—Pentandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4475.)

Heliconia *pulverulenta;* foliis oblongis tenui-acuminatis marginatis basi cordatis subtus albo-pulverulentis, spathis ternis coloratis (coccineis) folio bracteali concolori brevioribus, floribus (parvis albis) spatha triplo brevioribus pallide viridescentibus, sepalo nano oblongo submucronato.

Heliconia pulverulenta. *Lindl. Bot. Reg. t.* 1648.

Of this eminently handsome genus (*Heliconia*), a genus with the habit of *Strelitzia*, eleven species are enumerated by Römer and Schultes; seven more are given in Walpers' 'Annales,' vol. i. p. 811, and all are, we believe, indigenous to South America. Amongst all those, be they well-defined species or otherwise, our present plant is readily distinguished by the white pulverulent substance of the underside of the foliage, and by the small flowers in comparison of the large rich scarlet bracts. A scarcely less handsome species is given at our Tab. 4475, our *Heliconia angustifolia* (from Brazil), with shorter, paler-coloured, and more numerous sheathing bracts, larger flowers, and very long narrow leaves. The exact native country of the present is not known. It appears to have been introduced to our stoves some twenty years ago by the late Sir Abraham Hume, from whose hothouse at Wormleybury the figure in the 'Botanical Register' was made. We possess a portion of a leaf of a *Heliconia* from Dominica similarly white and pulverulent beneath, gathered there by our friend Dr. Imray, but whether identical with ours it is impossible to say without further materials, which we hope soon to receive. Our drawing was taken from a fine plant, that blossomed at Kew in June, 1852.

Descr. A tall-growing *plant*. *Stem* four to six feet high, clothed with the long sheathing bases of a few petiolated leaves,

and these partially clothed with a scurfy deciduous powder. *Leaves* a foot or more long, broad, oblong, subovate, finely acuminated, margined with red, the base cordate (the sides unequal); the upper surface full and rather bright green, beneath paler and white with a more or less deciduous powdery substance; the *petiole*, when cut through transversely, exhibits several large air-cells. From the sheathing base of an upper leaf the *inflorescence* appears, consisting of a stout zigzag rachis clothed with the sheathing bases of three (or four, including the longer lowermost flowerless one) long, stout, subulate, conduplicate, very acuminated *bracts* or *spathas*, sheathing at the base. From the axils of these a cluster of rather small, whitish-green *flowers* appear, not much protruded beyond the sheathing portion of the spatha. Their structure is as in the rest of the genus. The sixth very diminutive sepal is very small, a mere oblong scale, mucronate at the point.

Fig. 1. Flower, from which the five larger sepals have been removed:—*magnified.*



1.

2.

Fitch del. et lith.

F.Reeve, imp

# Tab. 4686.

# DENDROBIUM cretaceum.

*Chalk-white Dendrobium.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4352.)

Dendrobium (§ Eudendrobium) *cretaceum;* foliis lanceolatis apice oblique emarginatis obtusiusculis, floribus solitariis, sepalis lineari-lanceolatis patentissimis obtusiusculis, labello subrotundo indiviso cucullato fimbriato-dentato utrinque pubescente basi foveato et obsoleto 3-lamellato, mento brevi obtuso. *Lindl.*

Dendrobium cretaceum. *Lindl. Bot. Reg. v.* 33. *t.* 62.

It is a misfortune with many of the *Dendrobia* whose stems bear the flowers, solitary (as here) or two or three from the same point opposite to that of the insertion of the leaf, that when the blossoms are in perfection the foliage has fallen. This is the case with the species now before us. The old long jointed stem here shown has a fair sprinkling of flowers, but there are no leaves, save on a young stem that is forming at the base of the old ones, and which, in its turn, is to shed its leaves and then throw out blossoms. Nor does our species boast of rich colours in the sepals and petals. Their general or ground colour is white, and of that dead and chalky kind which suggested to Dr. Lindley the specific name of *cretaceum*. Our plant was sent to us from Assam in 1851; its flowering (in June, 1852) confirms the correctness of Dr. Lindley's suspicion, that the flowers are always solitary, not in twos or threes, as is characteristic of the section *Eudendrobium* (Grastidium, *Blume*). Mr. Griffith found the same species in Mergui and the Khasya hills, and Mr. Thomas Lobb sent it to the excellent Nursery of Messrs. Veitch, Exeter.

Descr. Epiphytal. *Root* a few rather slender but fleshy

*fibres*, which spring from the base of the unbranched, more or less pendent, a foot and more long, terete, curved, striated *stems*; the young ones clothed with a few sheathing lanceolate glabrous *leaves*. The older and flowering stems are as thick as one's little finger, and in part sheathed with the withered membranaous bases of the old leaves; and from these, opposite to where a leaf has been, the rather large white flowers appear solitary, each subtended by a small *bractea*. *Sepals* and *petals* much spreading, lanceolate, rather obtuse, quite glabrous. *Lip* large, almost orbicular, but tapering into a short claw, cucullate, white with a few orange streaks, finely fringed at the margin, downy on both sides; at the base above is a nectariferous cavity, and three obscure lamellæ. *Column* short, conical, but running down to where the labellum unites with it, and there forming an obtuse spur to the flower. *Anther-case* hemispherical, downy.

Fig. 1. Column and anther. 2. Lip:—*magnified*.



# Tab. 4687.

# ECHINOPSIS cristata.

*Crested Echinopsis.*

Nat. Ord. Cactaceæ.—Icosandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4521.)

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Echinopsis *cristata;* caule depresso-globoso nitido viridi 17-costato, costis compressis inter pulvillos valde cristatim obrepandis, pulvillis immersis subconfertis griseo-tomentosis, aculeis rigidis exterioribus 10 recurvato-patentibus summo cum centrali solitario longioribus erecto-recurvulis. *Salm-Dyck.*

Echinopsis cristata. *Salm-Dyck, Cacteæ in Hort. Dyck. Cult. pp.* 38, 178.

Echinocactus obrepandus. *Salm-Dyck, A. G. Z.* 1845, *p.* 386.

Var. *β.* purpurea; floribus purpurascentibus. Echinopsis cristata, *var.* purpurea. *Bot. Mag. t.* 4521.

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This, as well as the purple-flowered variety of it, were imported by Mr. Bridges from Bolivia (not Chili, as stated by Mr. Smith, in Bot. Mag. under Tab. 4521). The latter is already figured in the plate just cited, and we scarcely know which is the more striking of the two. The purple-flowered variety has the advantage in the colour of the flower, but the present kind produces the largest blossoms; the petals are broader in proportion to their length, a cream-white gradually passing into the greenish-purple of the outer sepals. The spines in the present variety are more slender, less curved, of a paler colour, but tipped with a darker brown. In other respects the two plants correspond, and a full description under Tab. 4521 will equally suffice for the present. Its flowering season is July.

*Echinopsis*, as we there observed, is a genus recently separated from *Echinocactus* by the Prince de Salm-Dyck, in which twenty species are included in the recently published 'Cacteæ in Horto Dyckensi cultæ,' etc., and these are divided into two principal but very unequal groups: "1, Tuberculatæ: tuberculis

cristatis, compressis, elongatis, in costas oblique subconfluentibus," to which belongs our *E. cristata*, now figured, *E. Scheerii*, Salm-Dyck, our *E. Pentlandii*, Bot. Mag. t. 4124, *Echinopsis pulchella*, Zuccarini, *E. amœna*, Dietr.; the rest are included under the second division, "2, COSTATÆ: costis continuis, plus minusve numerosis, repandis vel subrepandis," and to this belong *E. Eyresii*, Bot. Mag. t. 3411, *E. oxygona*, Bot. Mag. t. 4162, *E. multiplex*, Bot. Mag. t. 3789, *E. Zuccariniana* (*Echinocactus tubiflorus*, Bot. Mag. t. 3627), *E. campylacantha*, Bot. Mag. t. 4567. They are all remarkable for the great size and long tube of the flowers in comparison with the stem. They are assuredly among the handsomest of the family of *Cactaceæ*.

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Our Plate represents a reduced figure of an entire plant, and an apex of a plant with a flower:—*natural size*.



1.

2.

3.

Fitch, del. et lith.

F. Reeve, imp.

# Tab. 4688.

## VACCINIUM erythrinum.

*Red-twigged Whortleberry.*

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Nat. Ord. Vaccinieæ.—Decandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4612.)

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Vaccinium *erythrinum;* erectum glabrum, ramulis rubris, foliis ovatis brevi-petiolatis obtusis coriaceis integerrimis sempervirentibus, racemis terminalibus aggregatis multifloris foliaceo-bracteatis, bracteis flores longe superantibus, floribus pentameris secundis nutantibus, calycibus glabris, corollis urceolatis, staminibus inclusis, filamentis discoque magno epigyno hirsutis, antherarum muticarum loculis truncatis.

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While the recent labours of Dr. Wight on the Vacciniaceous plants of India have induced him to refer all known to him (including the genera *Agapetes*, *Ceratostemma*, and *Thibaudia* of authors) to the true *Vaccinium*, Dr. Klotzsch's investigations of the *entire* family have led him to the opinion that the genera required to be multiplied, so that we find in the 'Linnæa,' vol. xxiv. (for 1851), no less than fourteen new genera added, and the previously existing ones thus increased to twenty-eight! According to Dr. Klotzsch's views, our present plant, together with our *V. Rollisoni* (Tab. 4612), would, we presume, constitute another new genus, for in its truncated anther-cells (not ending in long tubes) it seems to differ from all his genera, while, according to Dr. Wight's views and my own, this would be a character of minor importance, seeing how much in habit and all other characters the species accords with *Vaccinium* in its ordinary acceptance. Wherever this is placed it must be associated with *V. Rollisoni*, and it is a native of the same country, having been equally sent from Java to Messrs. Rollison's Tooting Nursery, by their collector, Mr. Henshall. Than that, however, it is a far more lovely species, with much larger evergreen leaves, more numerous and larger flowers, and the young branches, and the petioles and even the midribs and

margins of the nascent leaves (as well as the flowers) are of a coral-red. The flowering plant was sent by Messrs. Rollison in October, 1852.

Descr. The *plant* before us is nearly a foot and a half high, a compact handsome *shrub;* the young *branches* quite red, and the young foliage stained with red. *Leaves* alternate, evergreen, coriaceous, glossy, one and three-quarters to two inches long, ovate, rather obtuse, quite entire. *Petioles* very short, thick, red. *Racemes* clustered (two to four together), terminal, two and a half to three inches long, sessile, or nearly so. *Flowers* numerous, moderately large, secund, drooping (all pointing downwards). *Rachis* rather stout, green, bearing on the upper side several large, foliaceous, oblong, green *bracteas*, much longer than the flowers. *Pedicels* curved downwards, shorter than the flowers, red. *Calyx* green, glabrous, *tube* (incorporated with the ovary) hemispherical, lobes of the *limb* rather large, ovate. *Corolla* urceolate, quite glabrous, deep coral-red; the *limb* of five, small, reflexed *segments*. *Stamens* ten, included; *filaments* subulate, free, hairy. *Anther* oblong, muticous, the two cells truncated (not prolonged into tubes), opening by nearly transverse pores as wide as the cells (not contracted). Epigynous *disc* very large and hairy. *Style* columnar, as long as the corolla, hairy in its lower half. *Stigma* peltate, obscurely five-lobed.

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Fig. 1. Flower. 2. Stamen. 3. Calyx and pistil:—*magnified.*

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